



STIC Search Report

EIC 1700

STIC Database | Tracking Number: 10/534315

TO: John Hardee
Location: REM 9A41
Art Unit : 1751
August 17, 2006

Case Serial Number: 10/534315

From: Mei Huang
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-3952
Mei.huang@uspto.gov

Search Notes

Examiner Hardee,

- Please note that A* can not be distinguished from B* in the formulas 1a-1c of claim 1 because the way they are defined, therefore there is no a good way to control the differences among these three formulas.
- See LL8 for the query of Claim 1 structure, page 2-3, and L14 for the query of Claim 9 structure, page 4.
- Page 5-213 showed the hits on Claim 1 structure. The first 6, page 2-66, are the hits on Author's preferred compounds of Claim 1 structure.
- Page 213-347 showed the hits on Claim 9 structure. The first 26, page 213-283, are the hits of author's preferred compounds of Claim 9 structure.
- The last 7 hits, page 347-366, are the results of combining the structure queries with classification of mixture, MXS/CI, or more than 3 components, 3<= NC.

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang

$$\begin{aligned} \text{I} &= 1 - 6 \\ \text{II} &= 7 - 8 \\ \text{III} &= 9 \\ \text{IV} &= 10 \end{aligned}$$

$$\begin{aligned} \text{V} &= 11 \\ \text{VI} &= 12 - 14 \\ \text{VII} &= 15 \end{aligned}$$

8.9

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: HARDE Examiner #: _____ Date: 8/15/06
 Art Unit: 1751 Phone Number 30 21318 Serial Number: 15534, 315
 Mail Box and Bldg/Room Location: 9A41 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Whatever you can find. Thanks

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr

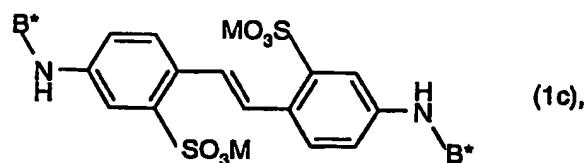
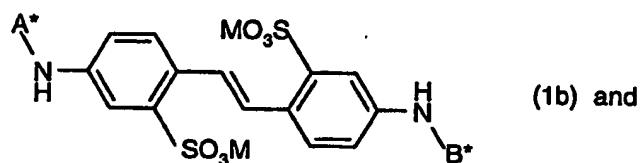
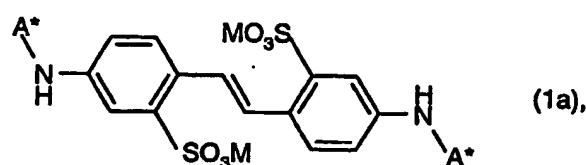
AUG 16 2006

Pat. & T.M. Office

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher:	<u>MH</u>	NA Sequence (#)	STN _____
Searcher Phone #:	_____	AA Sequence (#)	Dialog _____
Searcher Location:	_____	Structure (#)	<u>3</u> Questel/Orbit _____
Date Searcher Picked Up:	_____	Bibliographic	Dr. Link _____
Date Completed:	<u>8/17/06</u>	Litigation	Lexis/Nexis _____
Searcher Prep & Review Time:	_____	Fulltext	Sequence Systems _____
Clerical Prep Time:	_____	Patent Family	WWW/Internet _____
Online Time:	_____	Other	Other (specify) _____

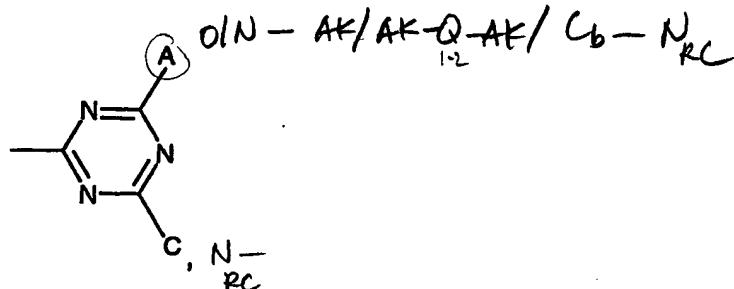
Claims

1. A fluorescent whitening agent, which comprises a mixture of compounds of the formulae



in which

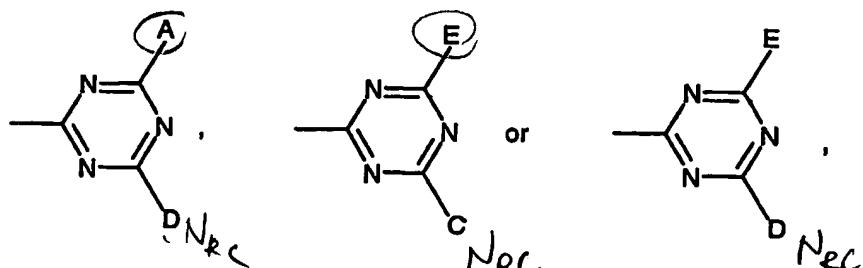
A* represents a group of the formula



A represents $-X-Y-NR_3R_4$ and

C is $-NR_1R_2$ and

B* represents a group of the formula



A & E

D & C

D represents $-NR_5R_6$ and

E represents $-X_1-Y_1-NR_7R_8$, whereby

X and X₁ each, independently of each other, represent $-O-$ or $-NH-$,

Y and Y₁ each, independently of each other, represent a straight-chain C_2-C_8 alkylene or branched C_3-C_8 alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulphur atoms or represent a 5- or 6-membered cycloaliphatic ring, C_5

AK
 Q
 AK_{1-2}

R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C_1-C_8 alkyl, C_2-C_4 hydroxyalkyl, C_1-C_4 alkoxy C_1-C_4 alkyl, phenyl, which is unsubstituted or substituted by halogen, C_1-C_4 alkoxy, C_1-C_4 alkyl or sulphonamido, or

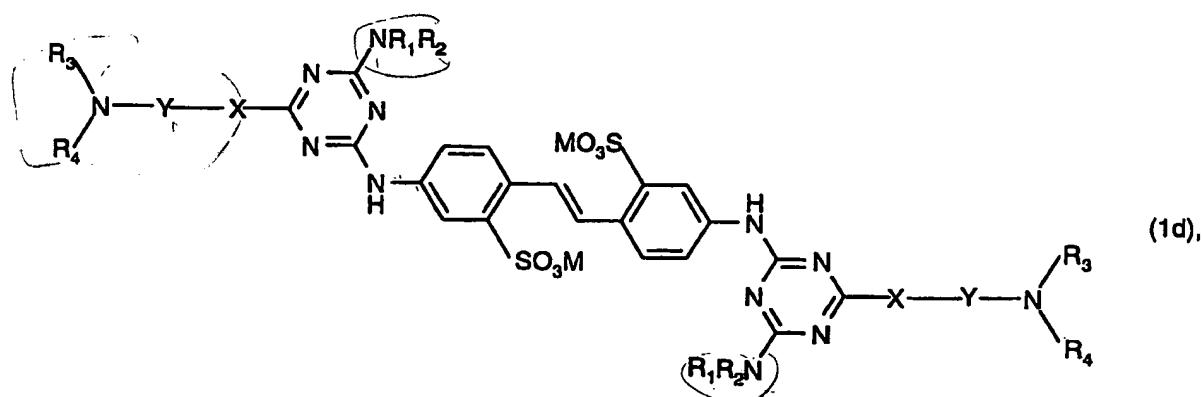
R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring,

R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C_1-C_4 alkyl, C_2-C_4 hydroxyalkyl or

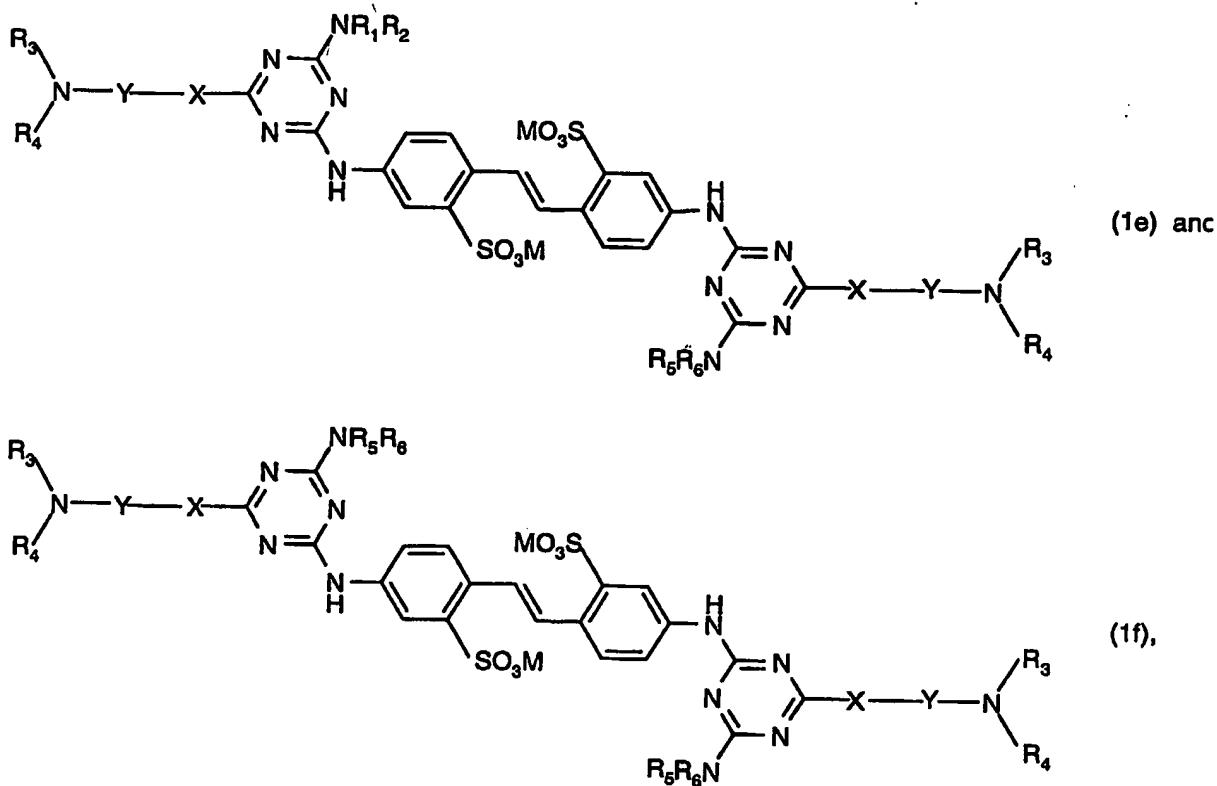
R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring

M represents hydrogen, an alkaline or alkaline earth metal, ammonium or alkylammonium.

2. A fluorescent whitening agent, according to claim 1, which comprises a mixture of compounds of the formulae



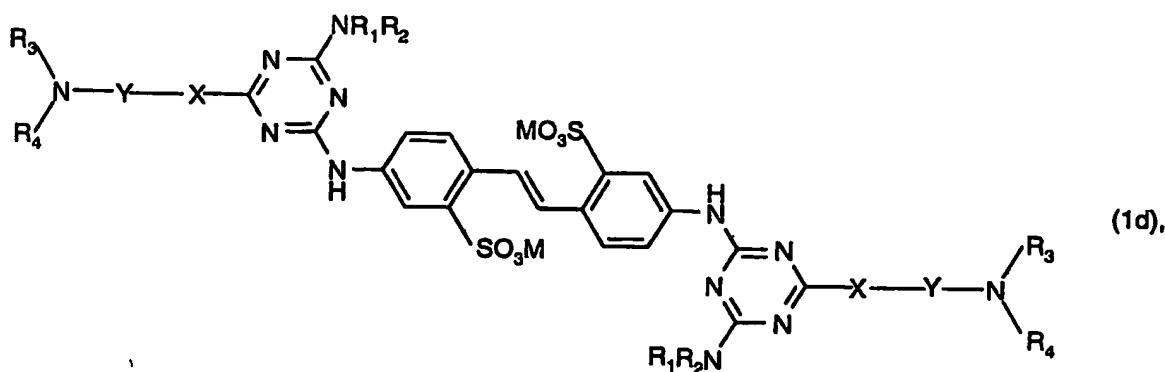
- 67 -



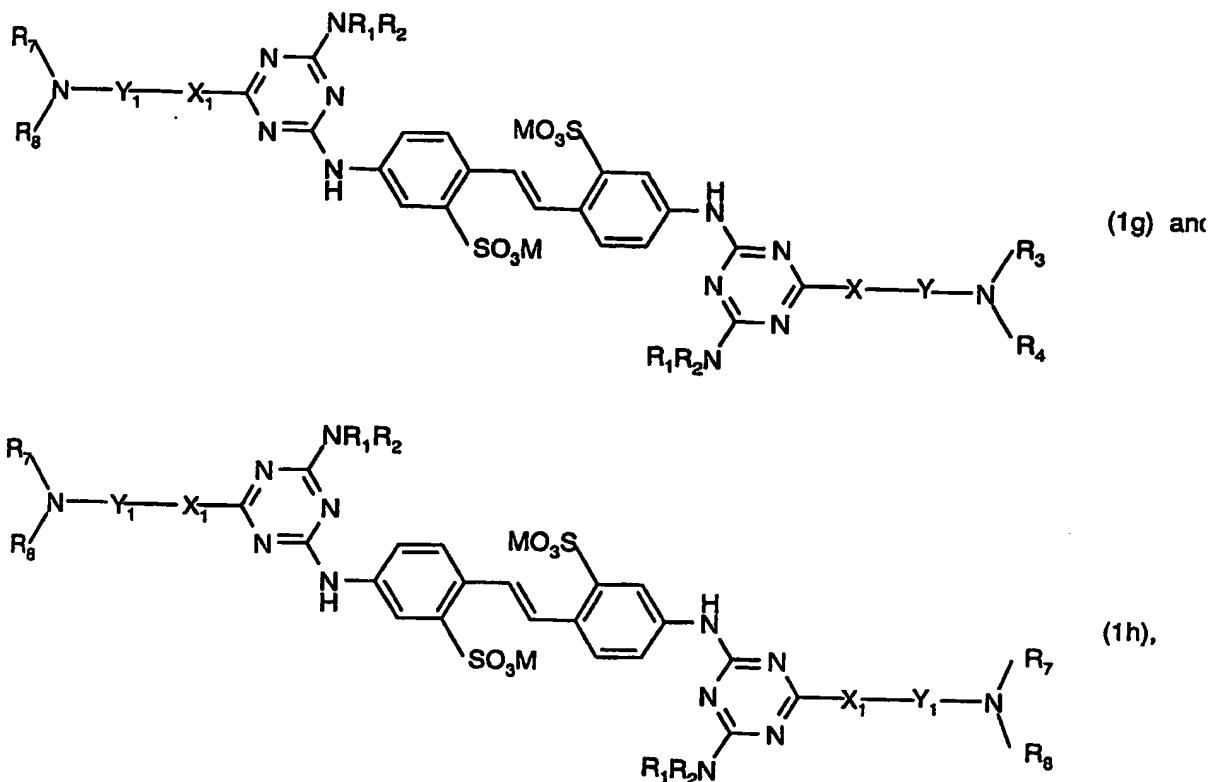
in which

X, Y, R₁, R₂, R₃, R₄, R₅, R₆ and M are as defined in claim 1.

3. A fluorescent whitening agent, according to claim 1, which comprises a mixture of compounds of the formulae



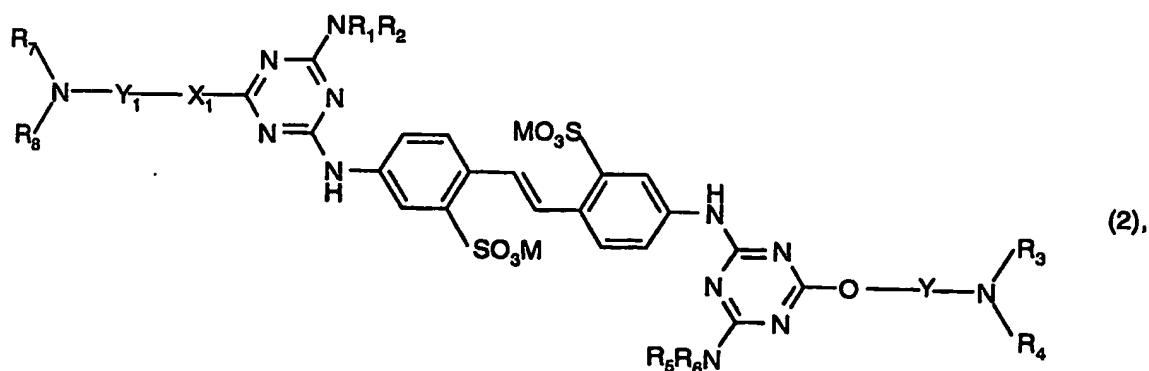
- 68 -



in which

 $\text{X}, \text{X}_1, \text{Y}, \text{Y}_1, \text{R}_1, \text{R}_2, \text{R}_3, \text{R}_4, \text{R}_7, \text{R}_8$ and M are as defined in claim 1.

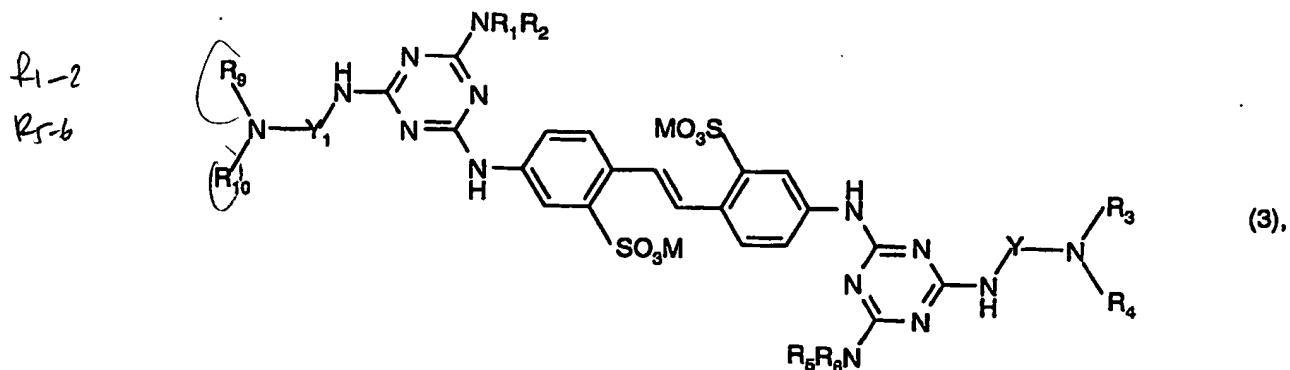
4. A compound of formula



in which

 $\text{X}_1, \text{Y}, \text{Y}_1, \text{R}_1, \text{R}_2, \text{R}_3, \text{R}_4, \text{R}_5, \text{R}_6, \text{R}_7, \text{R}_8$ and M are as defined in claim 1.

5. A compound of the formula



in which

R_9 and R_{10} , each independently of each other, represent hydrogen or C_2-C_4 hydroxyalkyl and Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , and M are as defined in claim 1, with the proviso that when Y and Y_1 both represent $-CH_2CH_2CH_2-$, R_1 and R_5 are both phenyl and R_2 and R_6 are both hydrogen, R_3 , R_4 , R_9 and R_{10} are not all $-CH_2CH_2OH$.

6. A process for the preparation of a mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, amino compounds of formulae R_1R_2NH and R_5R_6NH or mixtures thereof and compounds of formulae R_3R_4YXH and $R_7R_8Y_1X_1H$ or mixtures thereof, X , X_1 , Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 and R_8 being as defined in claim 1.

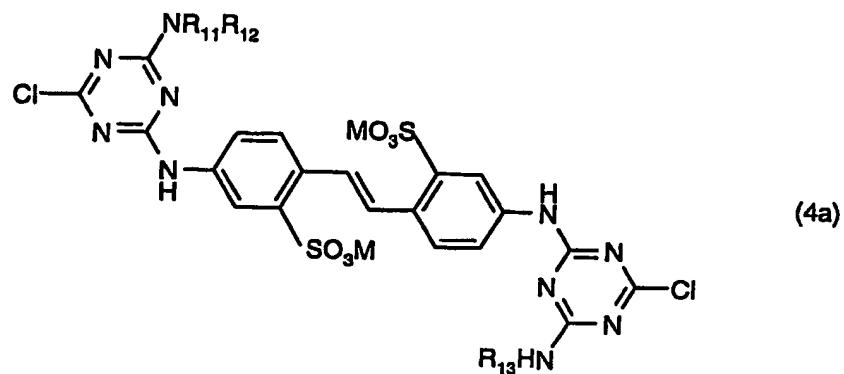
7. A process for the preparation of a compound of formula (2), according to claim 4, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, an amino compound of formula R_1R_2NH , an amino compound of formula R_5R_6NH , a hydroxy compound of formula R_3R_4NYOH and a compound of formula $R_7R_8NY_1X_1H$, X_1 , Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 and R_8 being as defined in claim 1.

8. A process for the preparation of a compound of formula (3), according to claim 5, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, an amino compound of

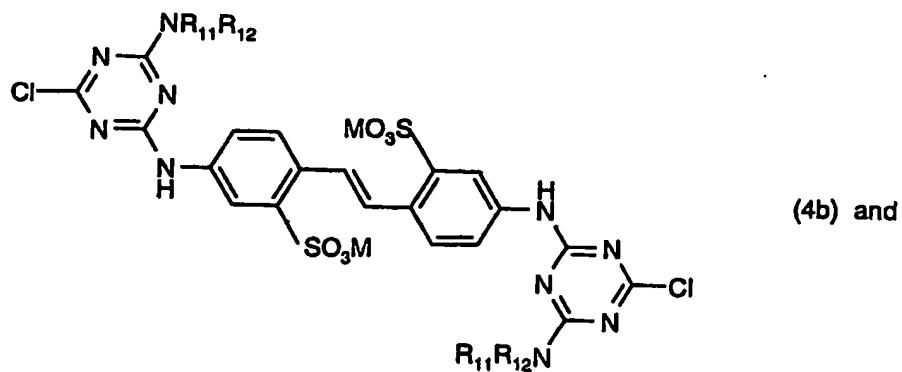
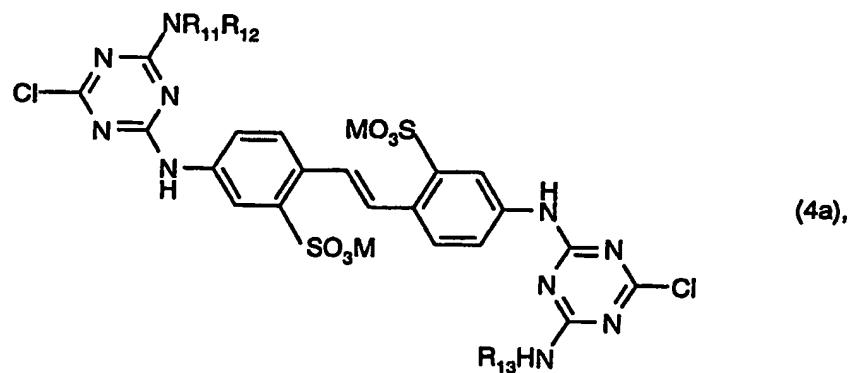
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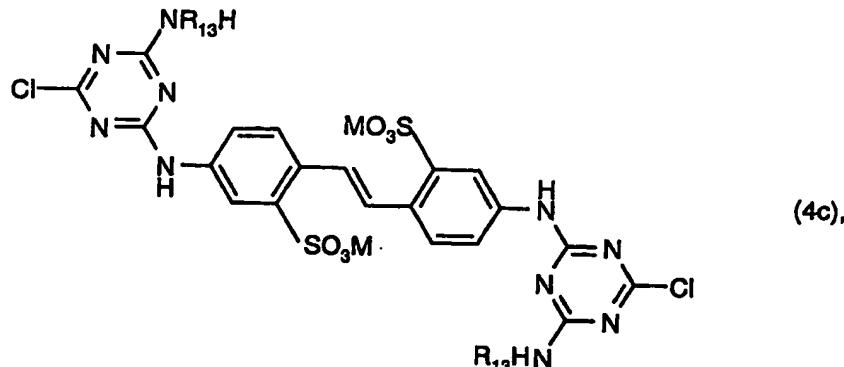
formula $\text{R}_1\text{R}_2\text{NH}$, an amino compound of formula $\text{R}_5\text{R}_6\text{NH}$, an amino compound of formula $\text{R}_3\text{R}_4\text{NYNH}_2$ and a compound of formula $\text{R}_9\text{R}_{10}\text{NY}_1\text{NH}_2$,
 Y , Y_1 , R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_9 and R_{10} being as defined in claims 1 and 5.

9. A compound of the formula



or a mixture comprising compounds of the formulae





in which

R_{11} and R_{12} , each independently of each other, represent hydrogen, C_1 - C_4 alkyl, C_2 - C_4 hydroxyalkyl, C_1 - C_4 alkoxy C_1 - C_4 alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring,
 R_{13} represents phenyl, which is unsubstituted or substituted by halogen, C_1 - C_4 alkoxy, C_1 - C_4 alkyl or sulphonamido and
 M represents hydrogen, an alkaline or alkaline earth metal, ammonium or alkyl ammonium.

10. A process for the preparation of a compound of formula (4a) or a mixture of compounds of formulae (4a), (4b) and (4c), according to claim 9, by reacting, under known reaction conditions, cyanuric chloride, successively, in any desired sequence, with each of 4,4'-diaminostilbene-2,2'-disulphonic acid, an amino compound of formula $R_{11}R_{12}NH$ and an amino compound of formula $R_{13}NH_2$ or with a mixture of amino compounds $R_{11}R_{12}NH$ and $R_{13}NH_2$, R_{11} , R_{12} and R_{13} being as previously defined in claim 9.

11. Use of the compound of formula (4a), according to claim 9, for the preparation of a compound of formula (2), according to claim 3, in which, in formula (2),
 R_1 and R_2 each independently of each other, represent hydrogen, C_1 - C_4 alkyl, C_2 - C_4 hydroxyalkyl, C_1 - C_4 alkoxy C_1 - C_4 alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring,
 R_6 represents phenyl, which is unsubstituted or substituted by halogen, C_1 - C_4 alkoxy, C_1 - C_4 alkyl or sulphonamido,
 R_8 represents hydrogen and
 X_1 , Y , Y_1 , R_3 , R_4 , R_7 , R_8 and M are as defined in claim 1;
for the preparation of compound of formula (3), according to claim 5, in which, in formula (3), R_1 and R_2 each independently of each other, represent hydrogen, C_1 - C_4 alkyl,

- 72 -

C_2 - C_4 hydroxyalkyl, C_1 - C_4 alkoxy C_1 - C_4 alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring,

R_5 represents phenyl, which is unsubstituted or substituted by halogen, C_1 - C_4 alkoxy, C_1 - C_4 alkyl or sulphonamido,

R_6 represents hydrogen and

Y , Y_1 , R_3 , R_4 , R_9 , R_{10} , and M are as previously defined in claims 1 and 5 respectively or use of the mixture of compounds of formulae (4a), (4b) and (4c), according to claim 9, for the preparation of a mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, in which, in formulae (1a), (1b) and (1c),

R_1 and R_2 each independently of each other, represent hydrogen, C_1 - C_4 alkyl,

C_2 - C_4 hydroxyalkyl, C_1 - C_4 alkoxy C_1 - C_4 alkyl or, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring,

R_5 represents phenyl, which is unsubstituted or substituted by halogen, C_1 - C_4 alkoxy, C_1 - C_4 alkyl or sulphonamido,

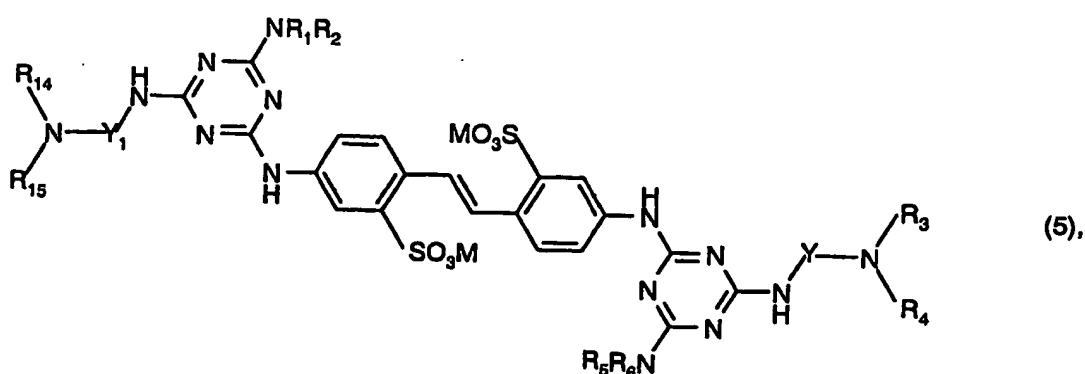
R_6 represents hydrogen and

X , X_1 , Y , Y_1 , R_3 , R_4 , R_7 , R_8 and M are as defined in claim 1.

12. Use of the mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, for the fluorescent whitening of paper.

13. Use of the compound of formula (2), according to claim 4, for the fluorescent whitening of paper.

14. Use of the compound of formula



in which

R_{14} and R_{15} , each independently of each other, represent hydrogen, C₁-C₄alkyl or C₂-C₄hydroxyalkyl and

Y, Y₁, R₁, R₂, R₃, R₄, R₅, R₆, and M are as defined in claim 1, for the fluorescent whitening of paper.

15. Paper, which has been treated with a fluorescent whitening agent comprising either a mixture of compounds of formulae (1a), (1b) and (1c), according to claim 1, a compound of formula (2), according to claim 4 or a compound of formula (5), according to claim 14.

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(FILE 'HOME' ENTERED AT 09:39:21 ON 17 AUG 2006)
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E US20060155124/PN
L1 1 SEA US2006155124/PN
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L2 82 SEA (100-36-7/BI OR 104-75-6/BI OR 104-78-9/BI OR
L3 STR
L4 50 SEA SSS SAM L3
L5 STR L3
L6 42 SEA SSS SAM L5
L7 8512 SEA SSS FUL L5
SAV L7 HAR315/A
L8 STR L5
L9 28 SEA SUB=L7 SSS SAM L8
L10 586 SEA SUB=L7 SSS FUL L8
SAV L10 HAR315S/A
L11 61 SEA L2 AND L7
L12 40 SEA L2 AND L10
L13 21 SEA L11 NOT L12
L14 STR L8
L15 16 SEA SUB=L7 SSS SAM L14
L16 350 SEA SUB=L7 SSS FUL L14
SAV L16 HAR315S9/A
L17 19 SEA L2 AND L16
L18 2 SEA L13 NOT L17
L19 9 SEA L10 AND MXS/CI
L20 6 SEA L2 AND L19
L21 8 SEA L16 AND MXS/CI
L22 3 SEA L19 NOT L20
L23 7 SEA L2 AND L21
L24 1 SEA L21 NOT L23
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L25 137 SEA L10
L26 3 SEA L12
L27 248 SEA L16
L28 55 SEA L17
L29 526349 SEA FLUORESCENT? OR BRIGHT? OR WHITE?
L30 71 SEA L25 AND L29
L31 4863644 SEA MIXT# OR MIXTURE? OR BLEND? OR ADMIX? OR COMMIX?
ORIMMIX? OR INTERMIX? OR COMPOSIT? OR COMPN# OR COMPSN#
OR FORMULAT? OR COMBINAT?
L32 39 SEA L30 AND L31
L33 35 SEA L32 AND (1840-2002)/PY,PRY
L34 33 SEA L33 NOT L26
L35 134 SEA L27 AND L29
L36 61 SEA L35 AND L31
L37 58 SEA L36 AND (1840-2002)/PY,PRY

L38 50 SEA L37 NOT L33
L39 52 SEA L28 AND L29
L40 26 SEA L39 AND L31
L41 1 SEA L26 AND L40
L42 3 SEA L33 AND L40
L43 0 SEA L26 AND L38
L44 0 SEA L33 AND L38
L45 2 SEA L26 NOT L41
L46 32 SEA L33 NOT L42
L47 29 SEA L38 NOT L40
L48 3 SEA L19
L49 2 SEA L21
L50 4 SEA L48 OR L49
L51 2 SEA L50 AND (L41 OR L42 OR L45 OR L46 OR L40 OR L47)
L52 2 SEA L50 NOT L51
D SCA

FILE 'REGISTRY' ENTERED AT 14:00:50 ON 17 AUG 2006

L53 13 SEA L10 AND 3<=NC
L54 7 SEA L53 AND M/ELS
L55 17 SEA L16 AND 3<=NC

FILE 'HCAPLUS' ENTERED AT 14:03:02 ON 17 AUG 2006

L56 6 SEA L53
L57 4 SEA L55
L58 9 SEA L56 OR L57
L59 3 SEA L58 AND (L41 OR L42 OR L45 OR L46 OR L40 OR L47)
L60 6 SEA L58 NOT L59
L61 5 SEA L58 NOT (L59 OR L52)

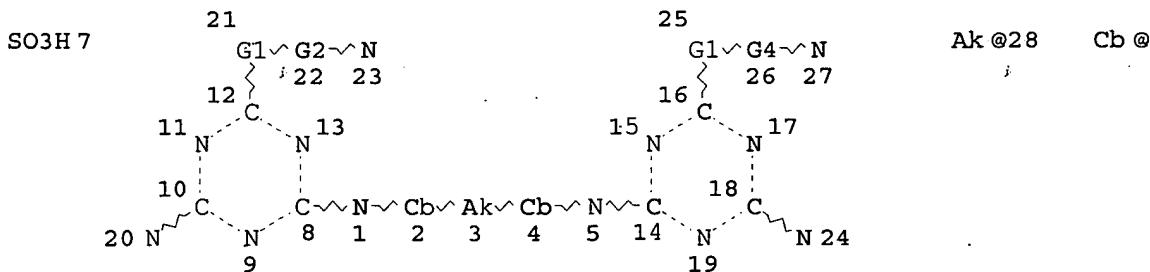
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1 2 3 4 5

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DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 2
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GGCAT IS UNS AT 4
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE
L7 8512 SEA FILE=REGISTRY SSS FUL L5
L8 STR



Ak ~ Q ~ Ak @29 30 @32 Ak ~ Q ~ Q ~ Ak @33 34 35 @36 Ak @37 Cb @38 Ak ~ Q ~ Ak @39 40 @41

Ak ~ Q ~ ~ Q ~ Ak @42 43 44 @45

Page 1-A

31

Page 1-B

VAR G1=O/N

VAR G2=28/31/29-21 32-23/33-21 36-23

VAR G4=37/38/39-25 41-27/42-25 45-27

NODE ATTRIBUTES:

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GGCAT IS UNS AT 2
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GGCAT IS UNS AT 4
DEFAULT ECLEVEL IS LIMITED
  
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STEREO ATTRIBUTES: NONE

L10 586 SEA FILE=REGISTRY SUB=L7 SSS FUL L8

100.0% PROCESSED 4750 ITERATIONS

586 ANSWERS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

SEARCH TIME: 00.00.02

=> d que stat l16
L5 STR

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DEFAULT ECLEVEL IS LIMITED

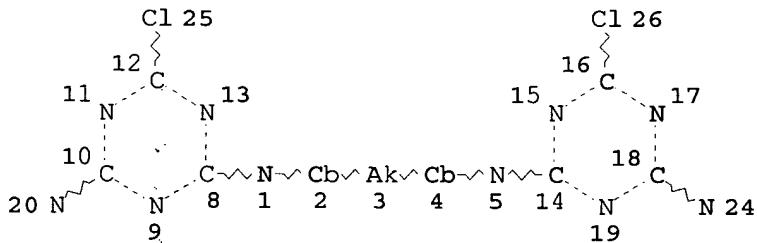
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STEREO ATTRIBUTES: NONE

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SO3H 7



NODE ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

L16 350 SEA FILE=REGISTRY SUB=L7 SSS FUL L14

100.0% PROCESSED 540 ITERATIONS
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350 ANSWERS

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=> d 141 ibib abs hitstr hitind

*The current
Application*

L41 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:453320 HCAPLUS
 DOCUMENT NUMBER: 141:25251
 TITLE: Amphoteric fluorescent
 whitening agents for paper
 INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Fletcher,
 Ian John
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holdings Inc., Switz.
 SOURCE: PCT Int. Appl., 74 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004046293	A2	20040603	WO 2003-EP12583	200311 11
WO 2004046293	C1	20040826		
WO 2004046293	A3	20041014		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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CA 2504256	AA	20040603	CA 2003-2504256	200311 11
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EP 1563049	A2	20050817	EP 2003-779887	200311 11
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BR 2003016400	A	20060221	BR 2003-16400	200311 11

JP 2006506492	T2	20060223	JP 2004-552569	
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PRIORITY APPLN. INFO.:			EP 2002-405998	09
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			EP 2003-779887	A3
				200311
				11
OTHER SOURCE(S) :	MARPAT 141:25251	WO 2003-EP12583		W
GI				200311
				11

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Novel bis-triazinylaminostilbene amphoteric fluorescent whitening agents, comprising both individual components and mixts. thereof, are used as fluorescent whitening agents for the fluorescent whitening of paper. Thus, a fluorescent whitening agent comprises a mixt. of compds. of the formula I,II and III in which A* represents a group of the formula IV, wherein A represents -X-Y-NR₃R₄ and C is -NR₁R₂ and B* represents a group of the formula V, VI and VII wherein D represents -NR₅R₆ and E represents -X₁-Y₁-NR₇R₈, whereby X and X₁ each, independently of each other, represent -O- or -NH-, Y and Y₁ each, independently of each other, represent a straight-chain C₂-C₈ alkylene or branched C₃-C₈ alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulfur atoms or represent a 5- or 6-membered cycloaliph. ring, R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C₁-C₈ alkyl, C₂-C₄ hydroxyalkyl, C₁-C₄ alkoxy C₁-C₄ alkyl, Ph, which is unsubstituted or substituted by halogen, C₁-C₄ alkoxy, C₁-C₄ alkyl or sulfonamido, or R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring, R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C₁-C₄ alkyl, C₂-C₄ hydroxyalkyl or R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and M represents hydrogen, an alk. or alk. earth metal, ammonium or alkylammonium. A process for their prepn. and intermediates useful for their prepn. are discussed.

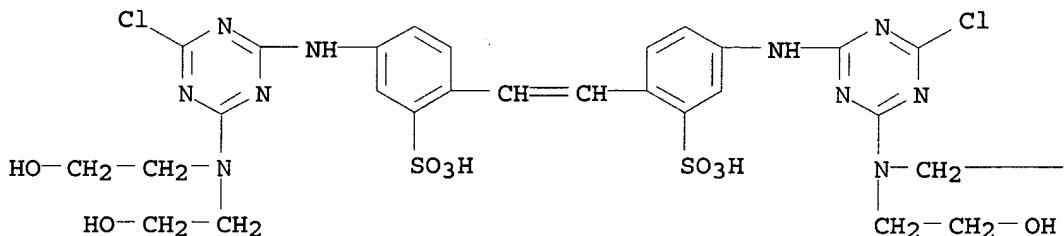
IT 4028-32-4 13281-93-1 37138-23-1
52205-59-1 52576-51-9 213910-64-6

RL: RCT (Reactant); RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)

RN 4028-32-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

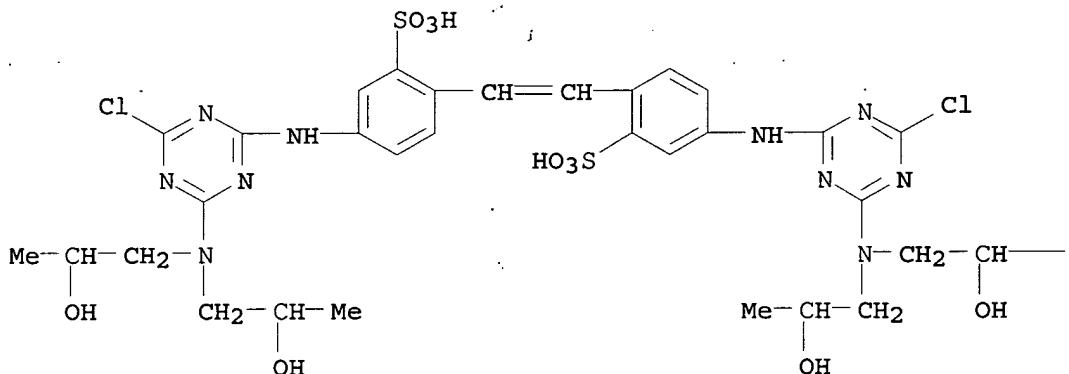
PAGE 1-B

— CH₂— OH

RN 13281-93-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



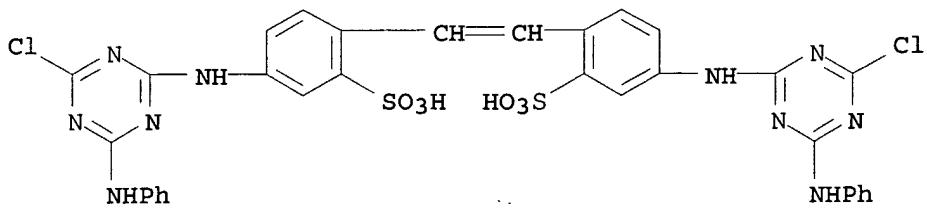
●2 Na

PAGE 1-B

— Me

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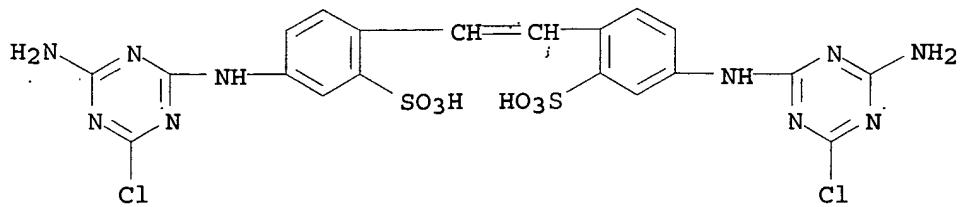
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[(4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 52205-59-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)

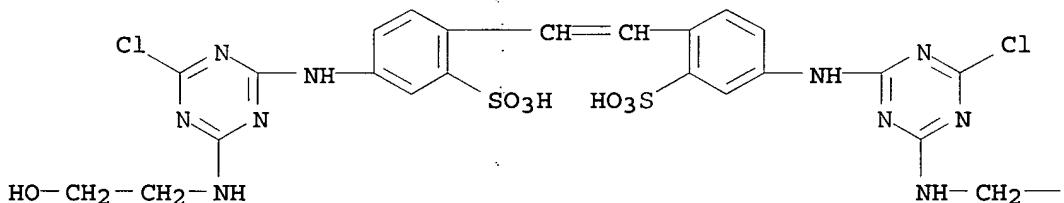


●2 Na

RN 52576-51-9 HCPLUS

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(CA INDEX NAME)

PAGE 1-A



●2 Na

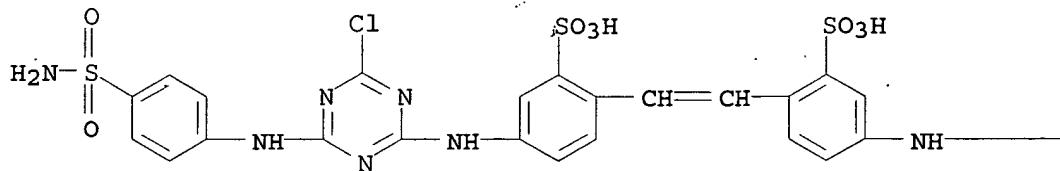
PAGE 1-B

— CH₂ — OH

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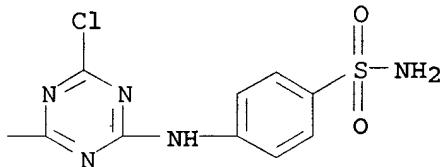
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(aminosulfonyl)phenyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

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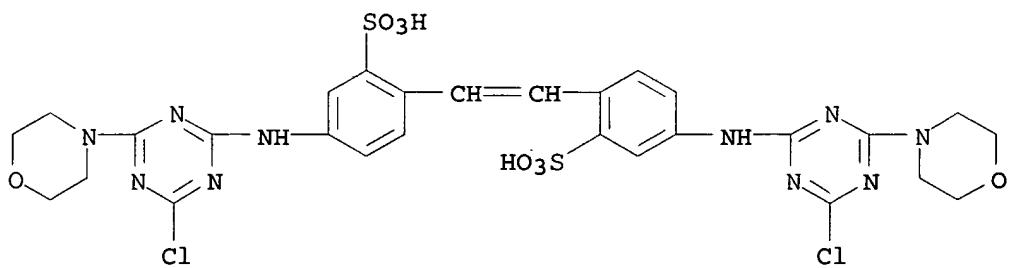


IT 28950-66-5P 602304-27-8P 697768-38-0P
697768-42-6P 697768-49-3P 697768-51-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)

RN 28950-66-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

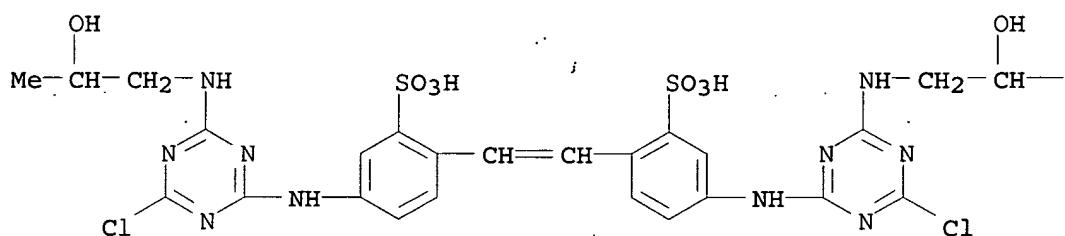


●2 Na

RN 602304-27-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

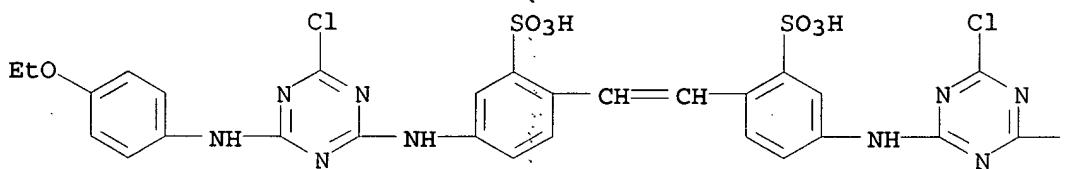
PAGE 1-B

— Me

RN 697768-38-0 HCPLUS

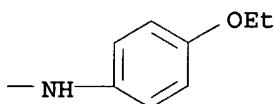
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(4-ethoxyphenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

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●2 Na

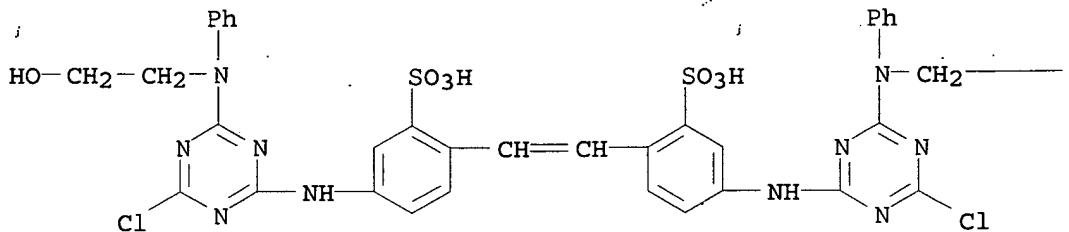
PAGE 1-B



RN 697768-42-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-hydroxyethyl)phenylamino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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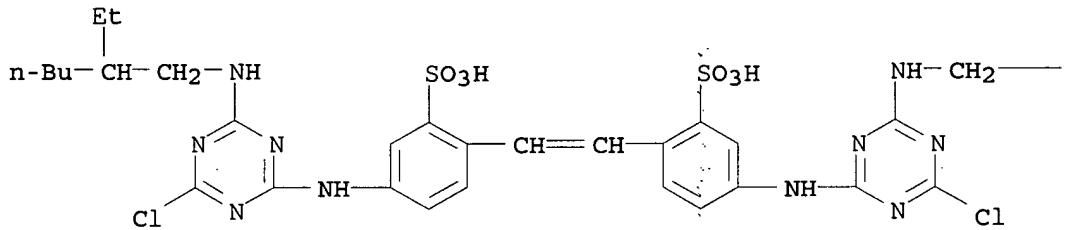
PAGE 1-B

— CH₂— OH

RN 697768-49-3 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-ethylhexyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

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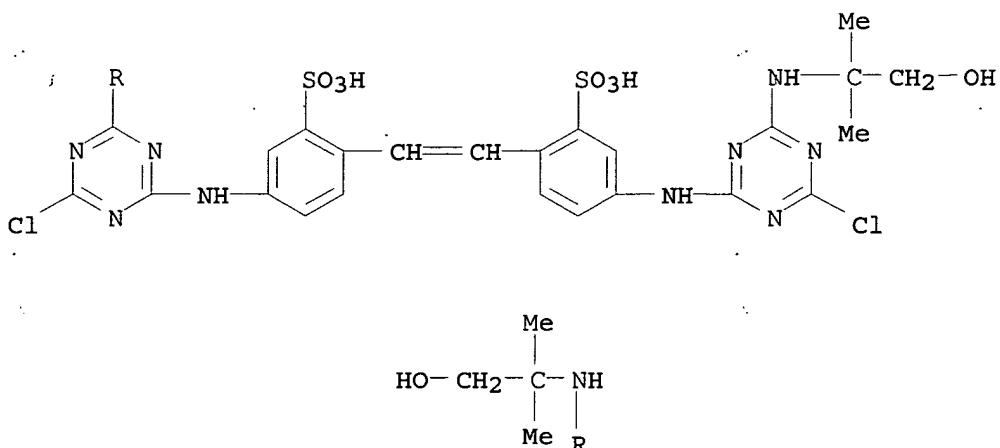


●2 Na

PAGE 1-B

RN 697768-51-7 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-hydroxy-1,1-dimethylethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

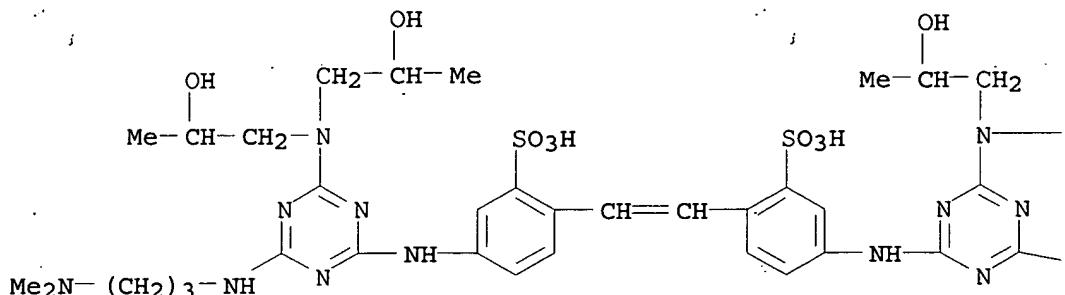
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 697768-50-6P 697768-52-8P 697768-54-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (amphoteric fluorescent whitening agents for
 paper)

RN 697767-94-5 HCPLUS

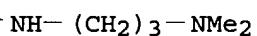
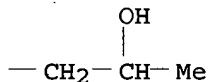
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

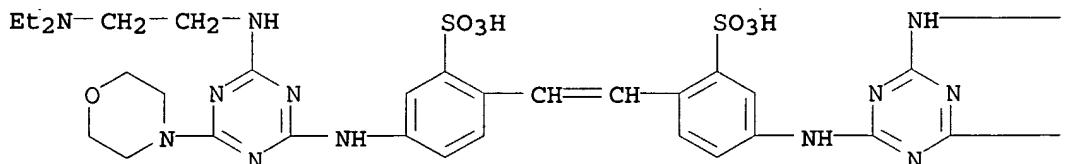
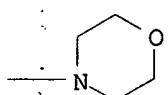
PAGE 1-B



RN 697767-95-6 HCPLUS

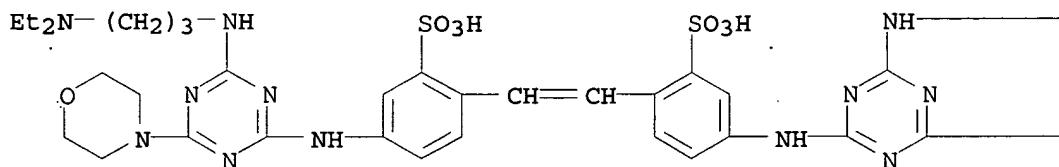
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A

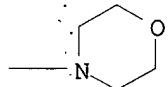
— CH₂— CH₂— NEt₂

RN 697767-96-7 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[3-(diethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

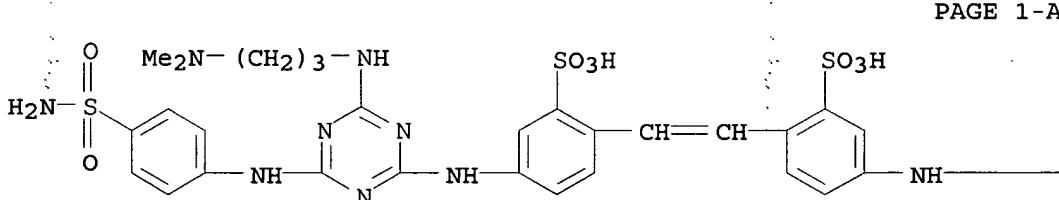


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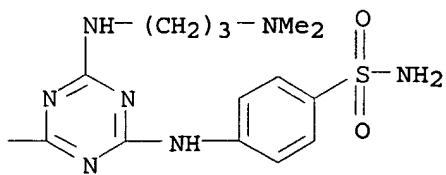
 $-\text{CH}_2\text{CH}_2\text{NEt}_2$ 

RN 697767-98-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[4-(aminosulfonyl)phenyl]amino]-6-[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)



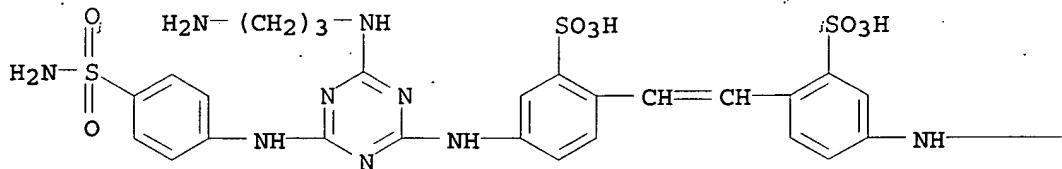
PAGE 1-B



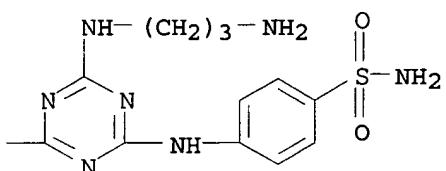
RN 697768-00-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[3-(aminopropyl)amino]-6-[4-(aminosulfonyl)phenyl]amino]-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

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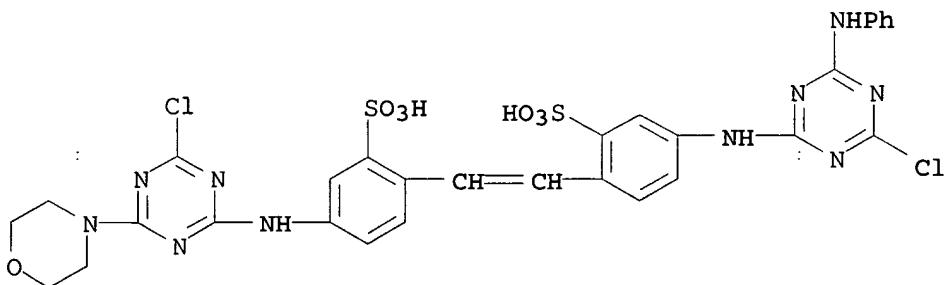
RN 697768-04-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[2-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

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CRN 602304-28-9

CMF C30 H26 Cl2 N10 O7 S2 . 2 Na

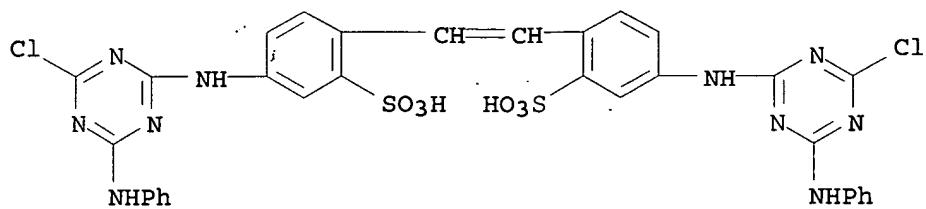


●2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

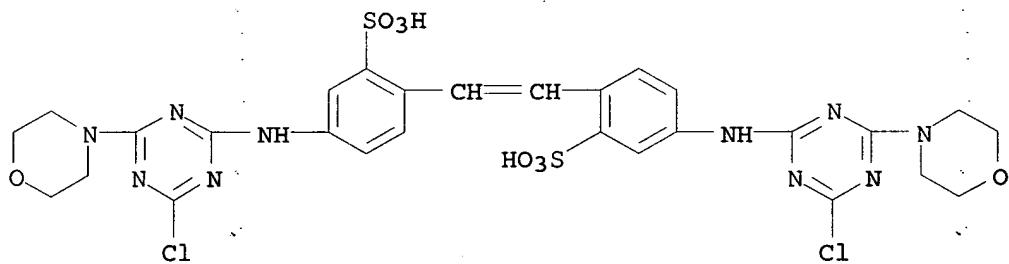


●2 Na

CM 3

CRN 28950-66-5

CMF C28 H28 Cl2 N10 O8 S2 . 2 Na



●2 Na

RN 697768-06-2 HCPLUS

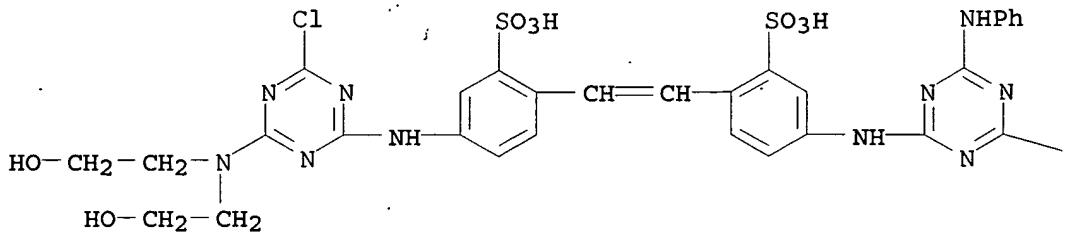
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-05-1

CMF C30 H28 Cl2 N10 O8 S2 . 2 Na

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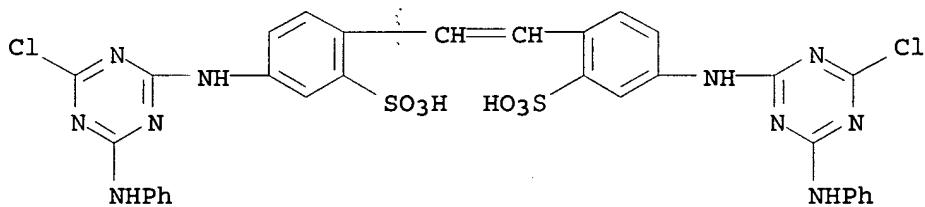
●2 Na

PAGE 1-B

Cl

CM 2

CRN 37138-23-1
 CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

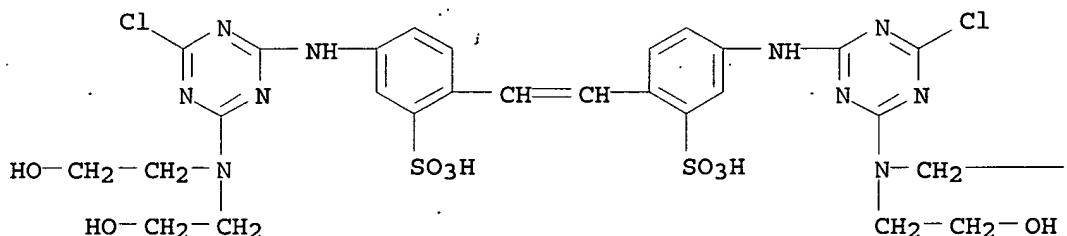


●2 Na

CM 3

CRN 4028-32-4
 CMF C28 H32 Cl2 N10 O10 S2 . 2 Na

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂ — OH

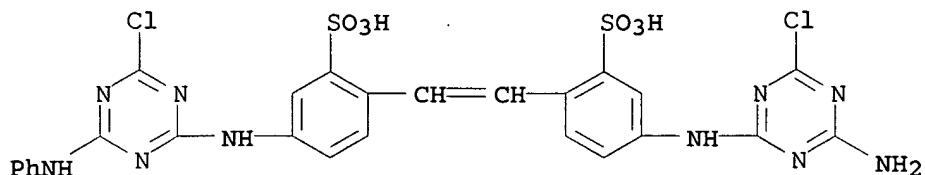
RN 697768-09-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt, mixt. with 5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

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CRN 697768-08-4

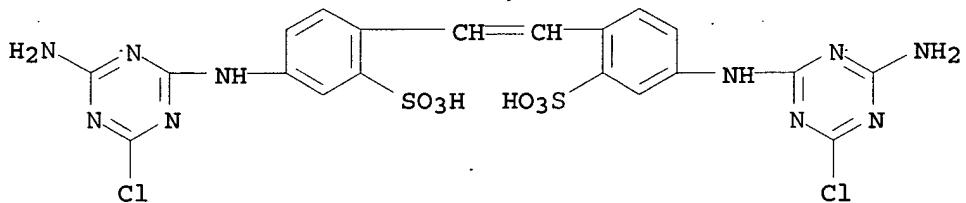
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●2 Na

CM 2

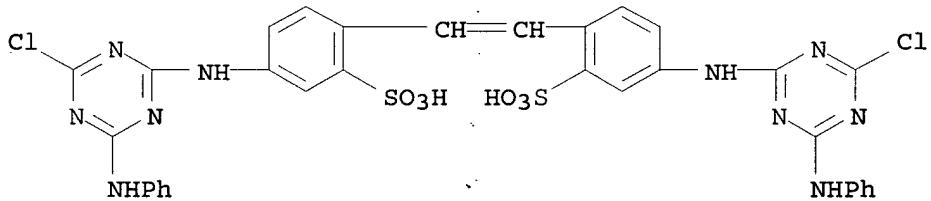
CRN 52205-59-1
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●2 Na

CM 3

CRN 37138-23-1
 CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



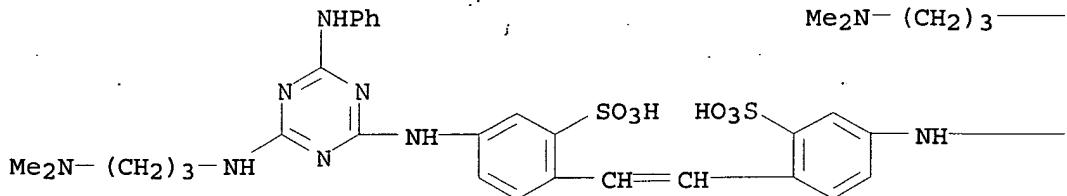
●2 Na

RN 697768-11-9 HCPLUS
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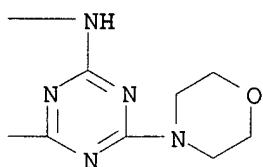
CM 1

CRN 697768-10-8
 CMF C40 H52 N14 O7 S2

PAGE 1-A

 $\text{Me}_2\text{N}-\text{(CH}_2)_3-$ 

PAGE 1-B

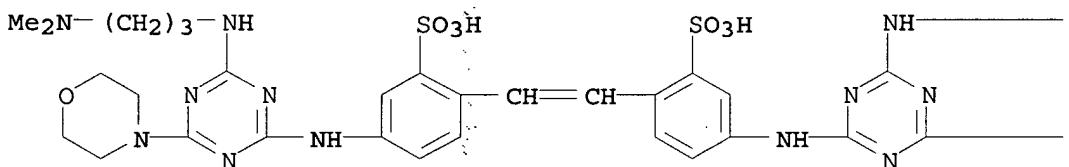


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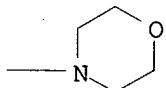
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CMF C38 H54 N14 O8 S2

PAGE 1-A



PAGE 1-B

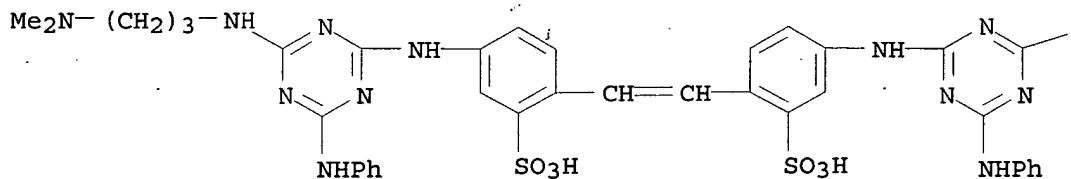
 $\text{---}(\text{CH}_2)_3-\text{NMe}_2$ 

CM 3

CRN 19643-44-8

CMF C42 H50 N14 O6 S2

PAGE 1-A



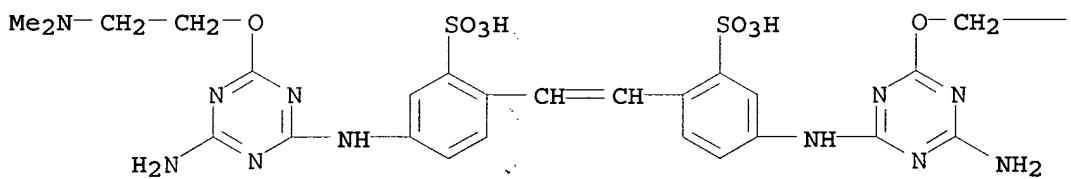
PAGE 1-B

—NH—(CH₂)₃—NMe₂

RN 697768-12-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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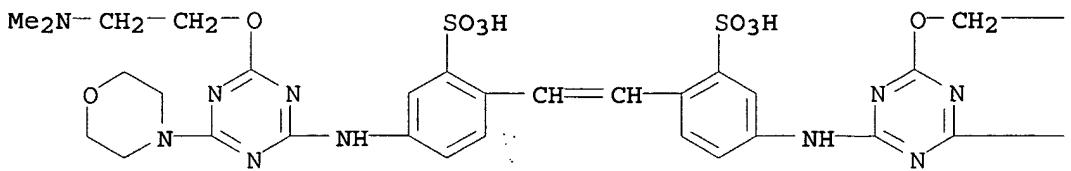
PAGE 1-B

—CH₂—NMe₂

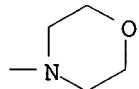
RN 697768-13-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

 $\text{---CH}_2\text{---NMe}_2$ 

RN 697768-15-3 HCAPLUS

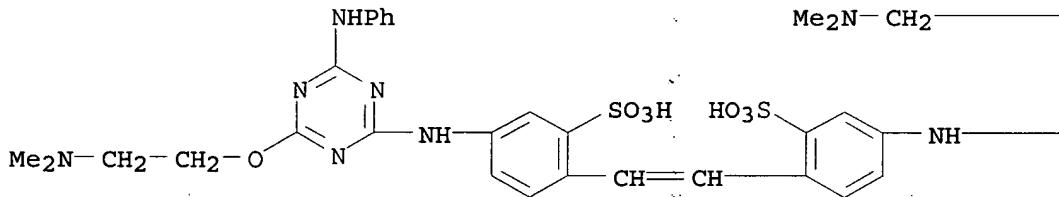
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[2-(dimethylamino)ethoxy]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[2-[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyil)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

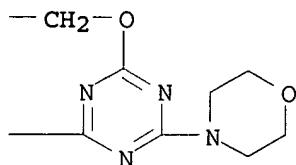
CRN 697768-14-2

CMF C38 H46 N12 O9 S2

PAGE 1-A



PAGE 1-B

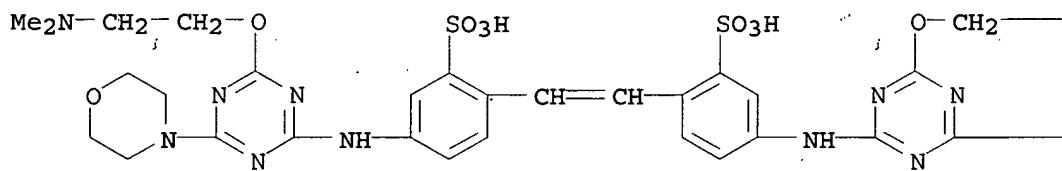


CM 2

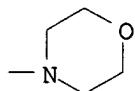
CRN 697768-13-1

CMF C36 H48 N12 O10 S2

PAGE 1-A



PAGE 1-B

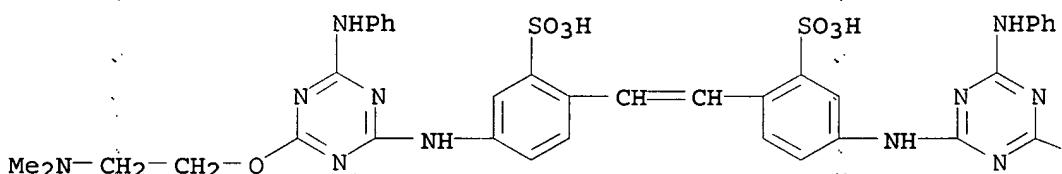
 $\text{---CH}_2\text{---NMe}_2$ 

CM 3

CRN 697768-07-3

CMF C40 H44 N12 O8 S2

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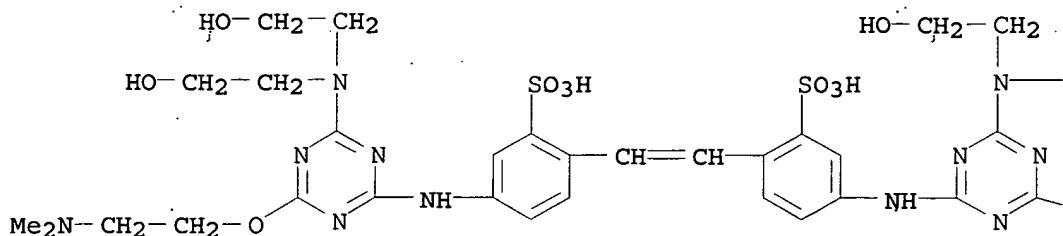
PAGE 1-B

 $\text{---O---CH}_2\text{---CH}_2\text{---NMe}_2$

RN 697768-16-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— CH₂—CH₂—OH

— O—CH₂—CH₂—NMe₂

RN 697768-18-6 HCPLUS

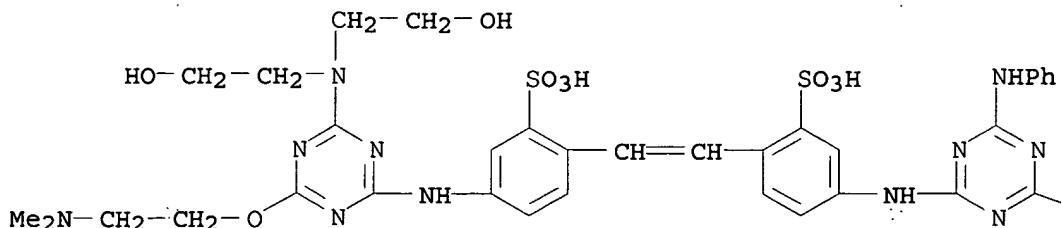
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-[2-(dimethylamino)ethoxy]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-[[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[2-(dimethylamino)ethoxy]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

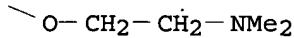
CRN 697768-17-5

CMF C38 H48 N12 O10 S2

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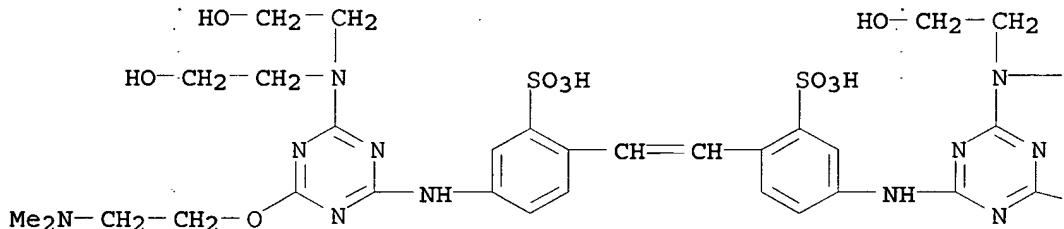


CM 2

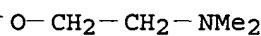
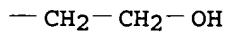
CRN 697768-16-4

CMF C36 H52 N12 O12 S2

PAGE 1-A



PAGE 1-B

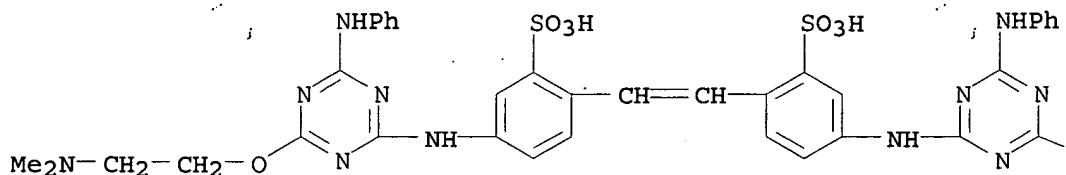


CM 3

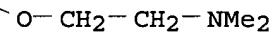
CRN 697768-07-3

CMF C40 H44 N12 O8 S2

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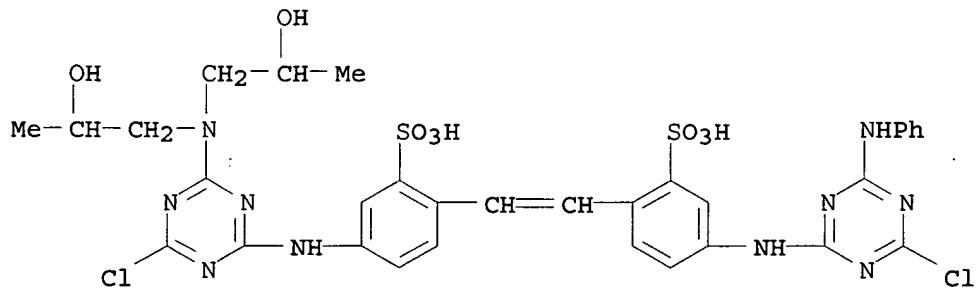
RN 697768-20-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, compd. with 5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-19-7

CMF C32 H32 Cl2 N10 O8 S2 . 2 Na

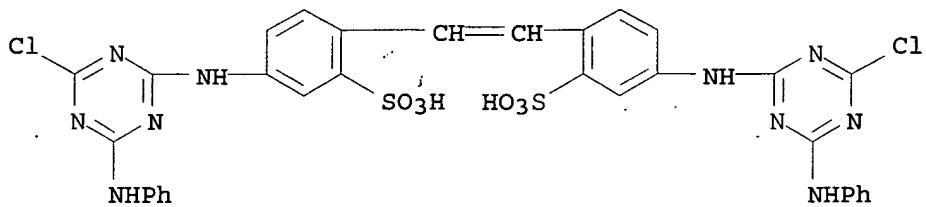


●2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



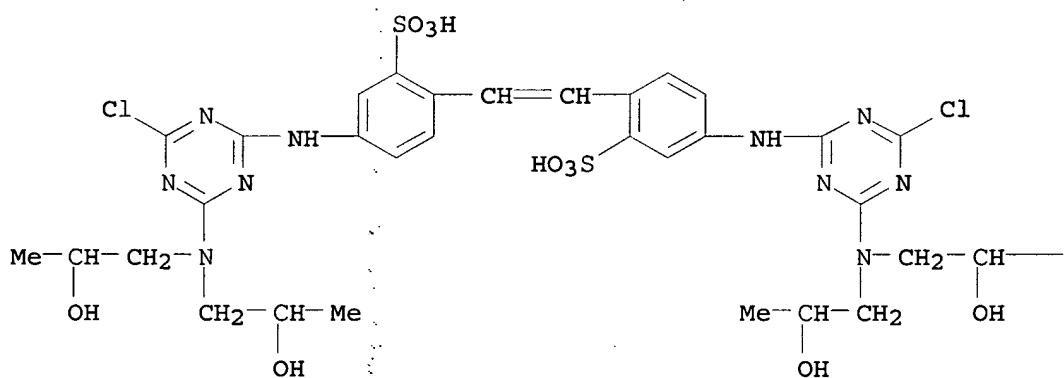
●2 Na

CM 3

CRN 13281-93-1

CMF C32 H40 Cl2 N10 O10 S2 . 2 Na

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●2 Na

PAGE 1-B

— Me

RN 697768-22-2 HCAPLUS

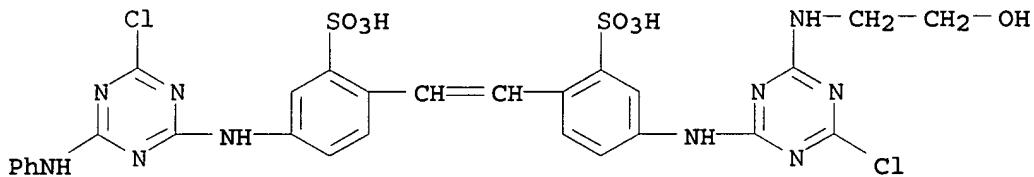
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[[(2-

hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt.
 with 5-[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-
 yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt
 and 2,2'-(1,2-ethenediyil)bis[5-[4-chloro-6-(phenylamino)-1,3,5-
 triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA
 INDEX NAME)

CM 1

CRN 697768-21-1

CMF C28 H24 Cl2 N10 O7 S2 . 2 Na



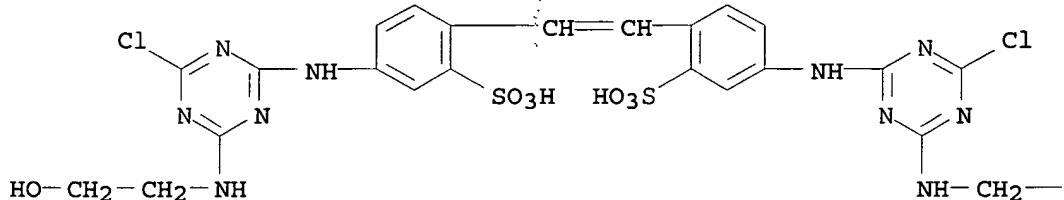
● 2 Na

CM 2

CRN 52576-51-9

CMF C24 H24 Cl2 N10 O8 S2 . 2 Na

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● 2 Na

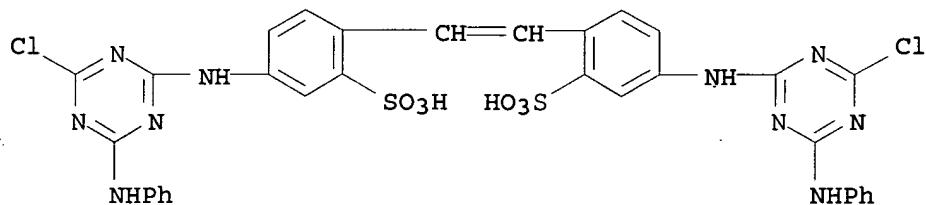
PAGE 1-B

— CH2— OH

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

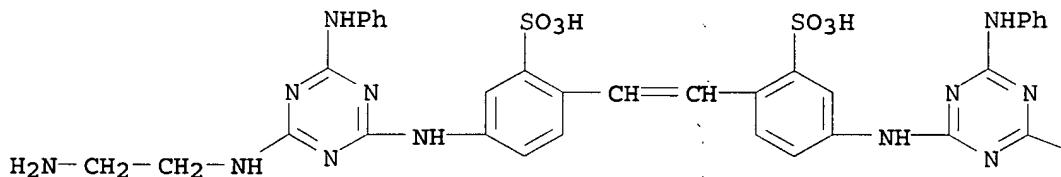


●2 Na

RN 697768-24-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-aminoethyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI)
(CA INDEX NAME)

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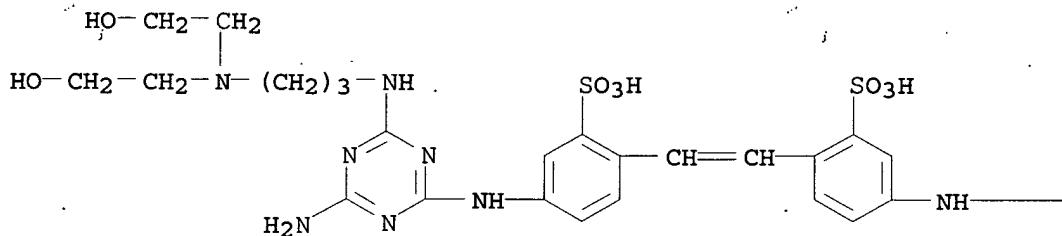
PAGE 1-B

NH-CH₂-CH₂-NH₂

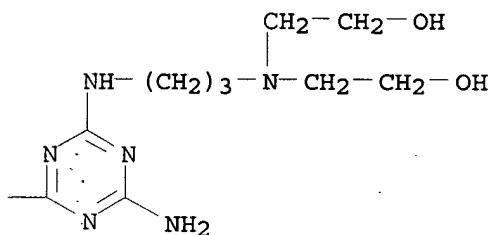
RN 697768-25-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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RN 697768-28-8 HCPLUS

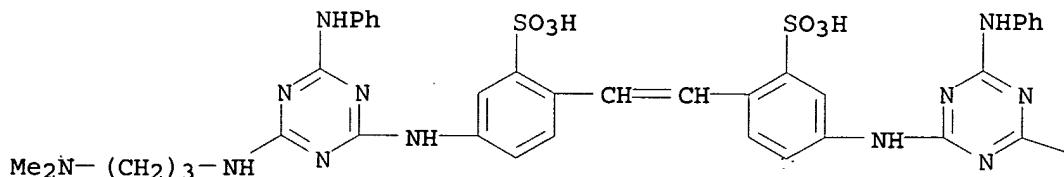
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-27-7

CMF C42 H50 N14 O6 S2 . 2 Na

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●2 Na

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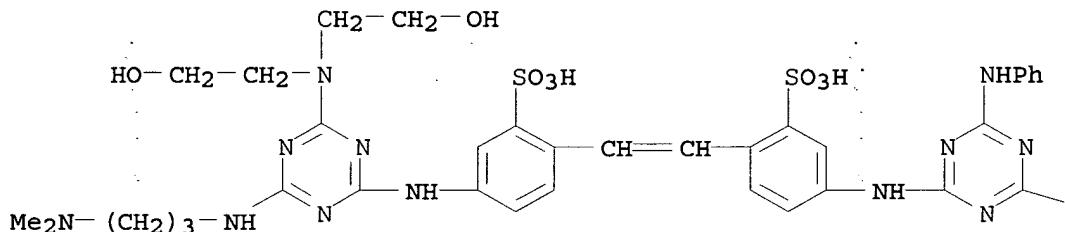
 $\searrow \text{NH} - (\text{CH}_2)_3 - \text{NMe}_2$

CM 2

CRN 697768-26-6

CMF C40 H54 N14 O8 S2 . 2 Na

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●2 Na

PAGE 1-B

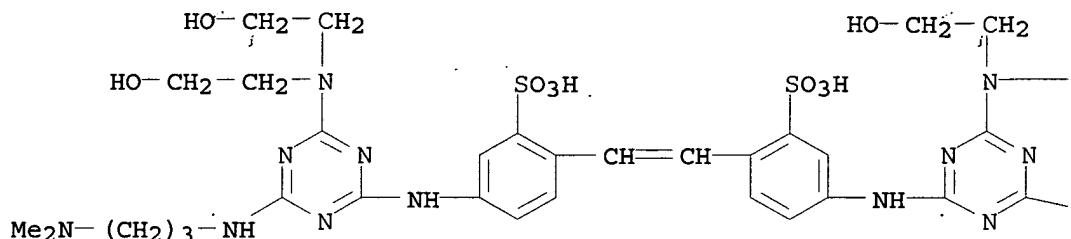
 $\searrow \text{NH} - (\text{CH}_2)_3 - \text{NMe}_2$

CM 3

CRN 697767-93-4

CMF C38 H58 N14 O10 S2 . 2 Na

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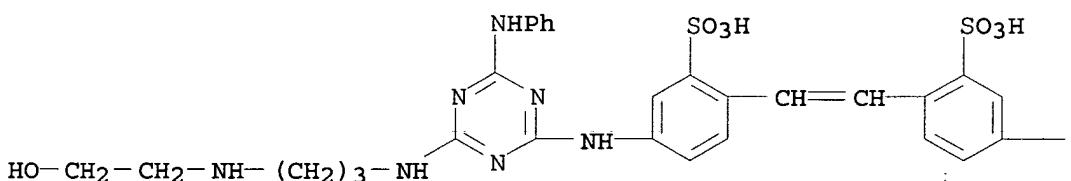
●2 Na

PAGE 1-B

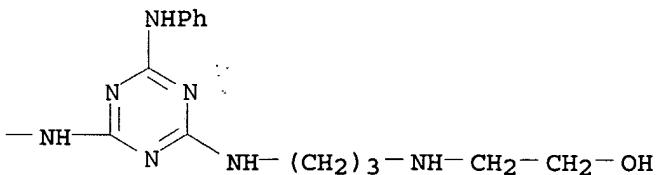
—CH₂—CH₂—OH—NH—(CH₂)₃—NMe₂

RN 697768-29-9 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(3-[(2-hydroxyethyl)aminopropyl]amino)-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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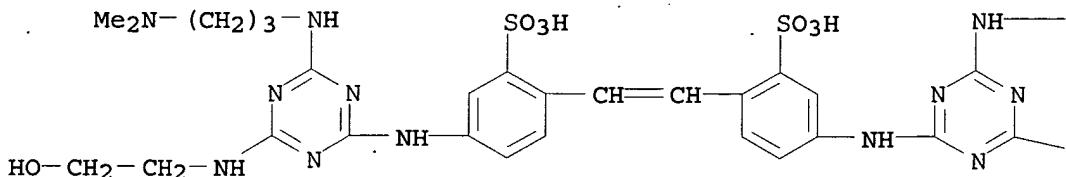
PAGE 1-B



RN 697768-30-2 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(3-(dimethylamino)propyl)amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-

2-yl]amino]- (9CI) (CA INDEX NAME)

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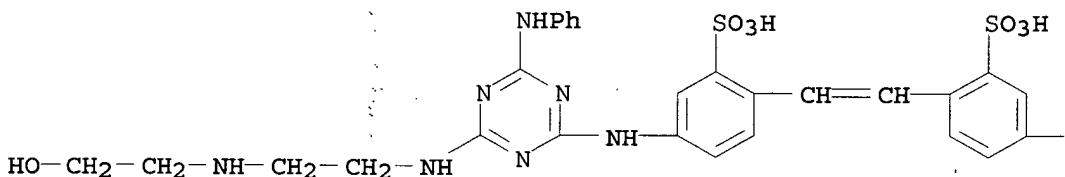
PAGE 1-B

 $-\text{CH}_2\text{CH}_2\text{NMe}_2$ $\text{NH}-\text{CH}_2-\text{CH}_2-\text{OH}$

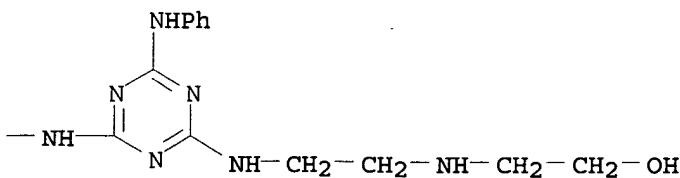
RN 697768-31-3 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-[(2-hydroxyethyl)amino]ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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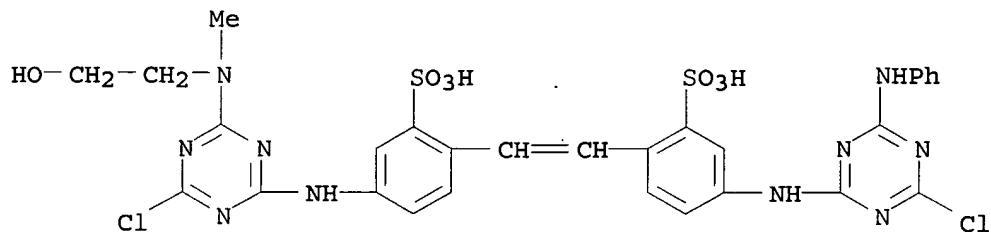


RN 697768-33-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

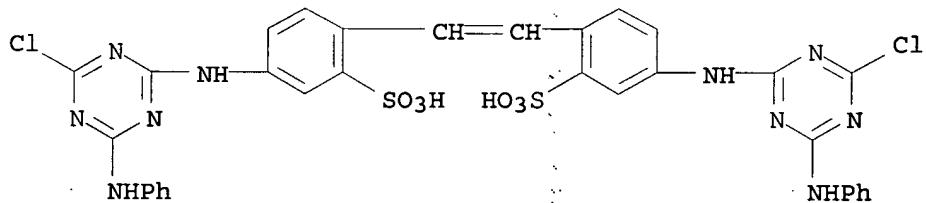
CRN 697768-32-4
 CMF C29 H26 Cl2 N10 O7 S2 . 2 Na



●2 Na

CM 2

CRN 37138-23-1
 CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

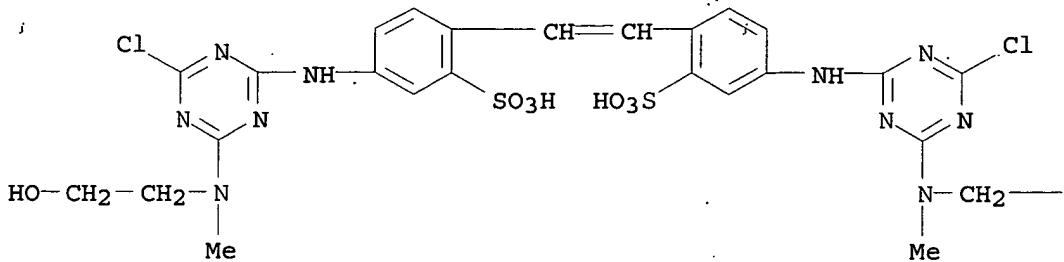


●2 Na

CM 3

CRN 25790-73-2
 CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

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●2 Na

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— CH₂— OH

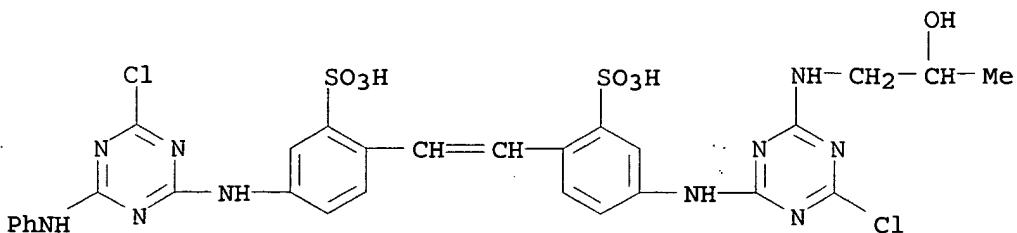
RN 697768-34-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 602304-31-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na

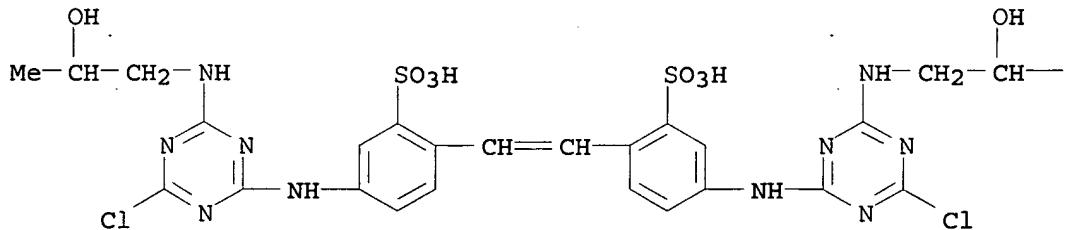


●2 Na

CM 2

CRN 602304-27-8
 CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

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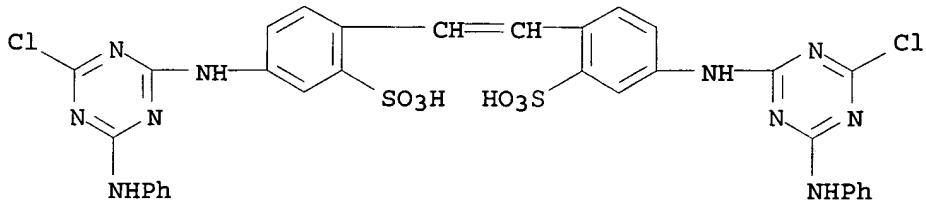
●2 Na

PAGE 1-B

— Me

CM 3

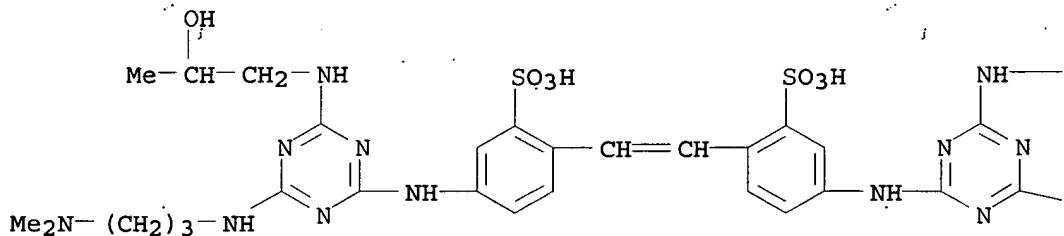
CRN 37138-23-1
 CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



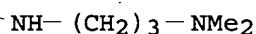
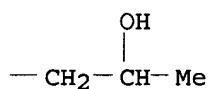
●2 Na

RN 697768-35-7 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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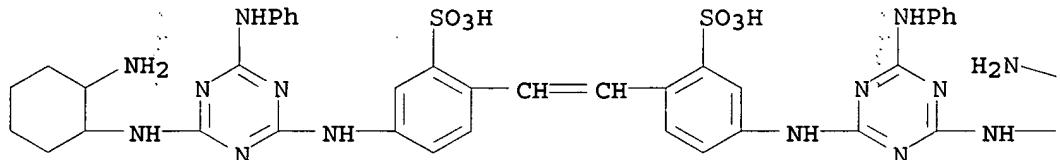
PAGE 1-B



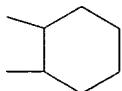
RN 697768-40-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-aminocyclohexyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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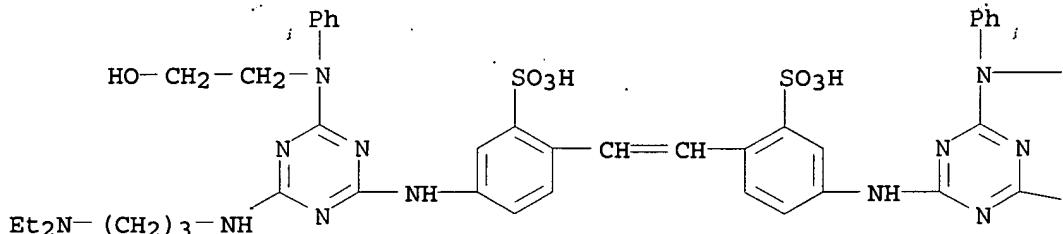
PAGE 1-B



RN 697768-41-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)phenylamino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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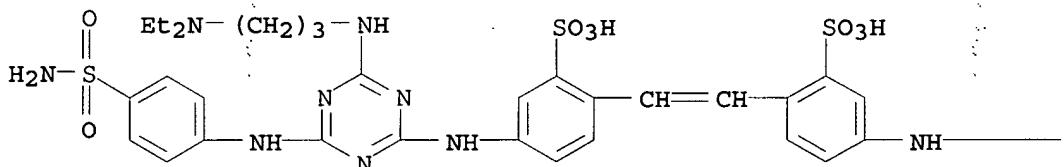
PAGE 1-B

 $\text{---CH}_2\text{---CH}_2\text{---OH}$ $\text{---NH---(CH}_2)_3\text{---NEt}_2$

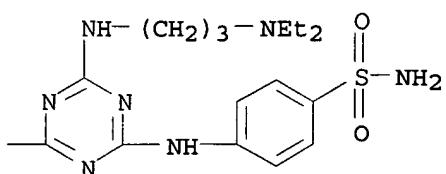
RN 697768-43-7 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[aminosulfonyl]phenyl]amino]-6-[[3-(diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

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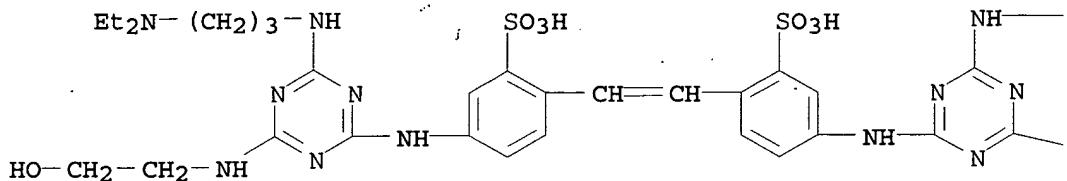
PAGE 1-B



RN 697768-44-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

PAGE 1-A



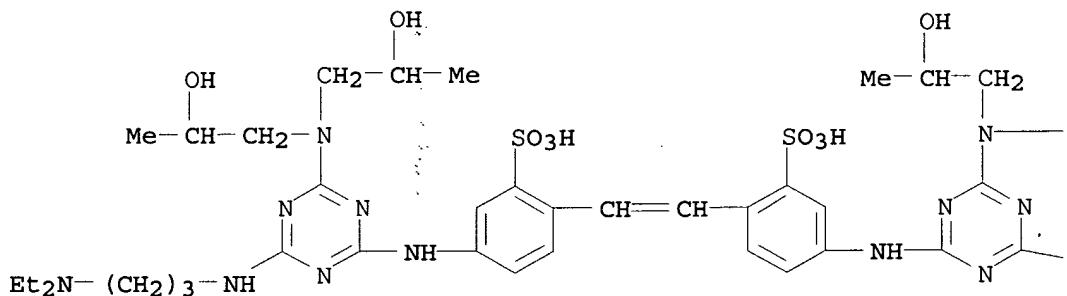
PAGE 1-B

—(CH₂)₃—NEt₂—NH—CH₂—CH₂—OH

RN 697768-45-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-[[3-(diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

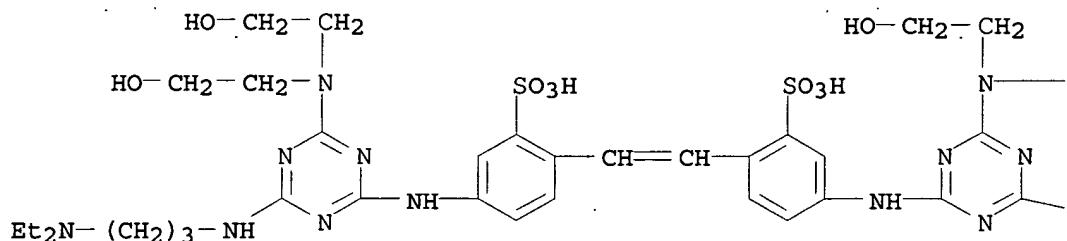
—CH₂—CH—Me—NH—(CH₂)₃—NEt₂

RN 697768-46-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(diethylamino)propyl]amino]-1,3,5-triazin-

2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



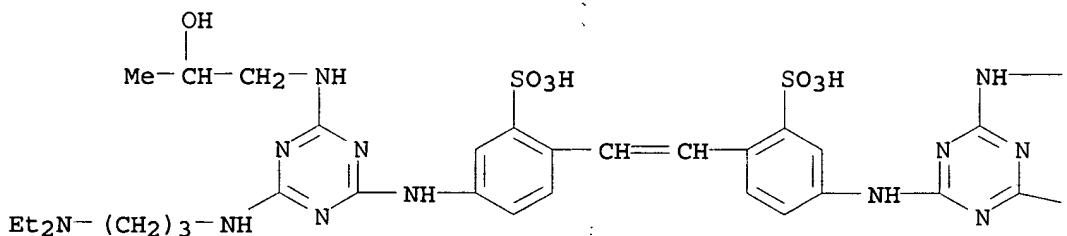
PAGE 1-B

 $\text{--CH}_2\text{-CH}_2\text{-OH}$ $\text{--NH-}(\text{CH}_2)_3\text{-NET}_2$

RN 697768-47-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

 $\text{--CH}_2\text{-CH(OH)-Me}$ $\text{--NH-}(\text{CH}_2)_3\text{-NET}_2$

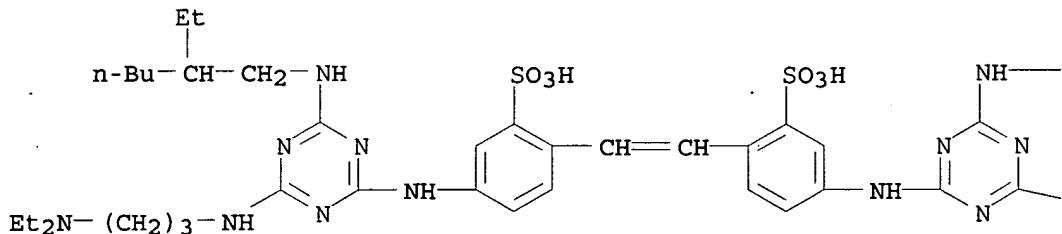
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MEI HUANG EIC1700 REM4B28 571-272-3952

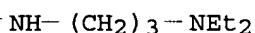
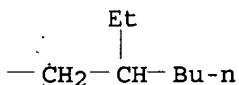
08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-ethylhexyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



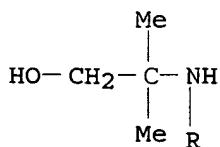
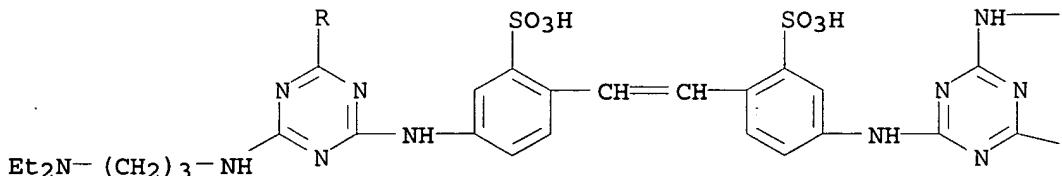
PAGE 1-B



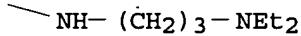
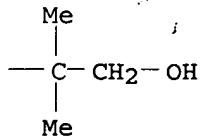
RN 697768-50-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxy-1,1-dimethylethyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



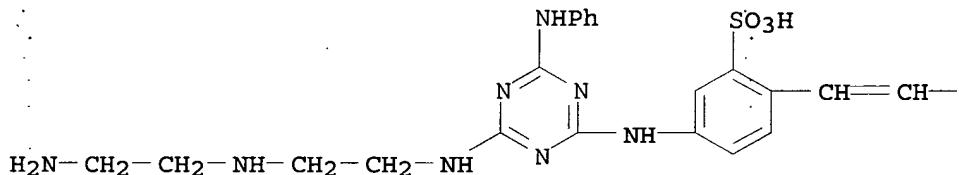
PAGE 1-B



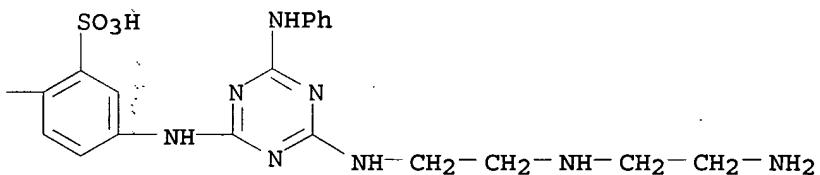
RN 697768-52-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-[(2-aminoethyl)amino]ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 697768-54-0 HCPLUS

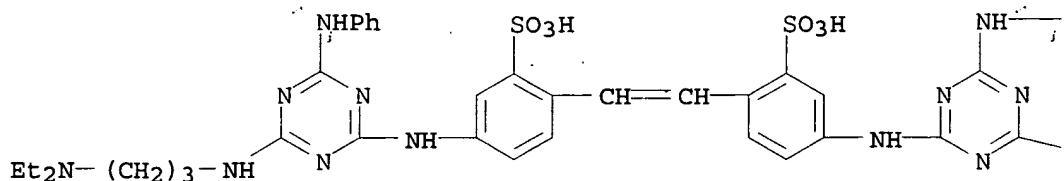
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[[3-(diethylamino)propyl]amino]-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-[[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

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CRN 697768-53-9

CMF C42 H58 N14 O7 S2

PAGE 1-A



PAGE 1-B

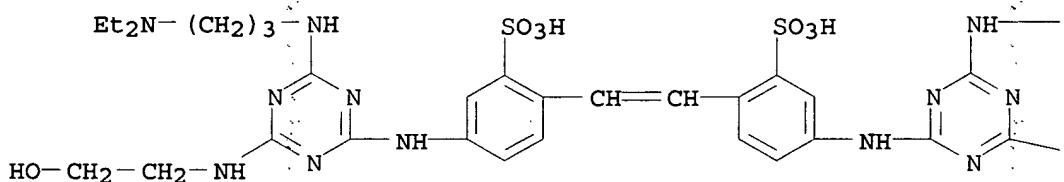
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CM 2

CRN 697768-44-8

CMF C38 H58 N14 O8 S2

PAGE 1-A



PAGE 1-B

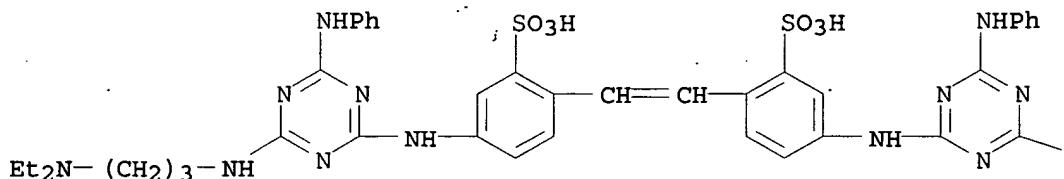
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CM 3

CRN 697767-97-8

CMF C46 H58 N14 O6 S2

PAGE 1-A



PAGE 1-B

- NH-(CH₂)₃-NET₂

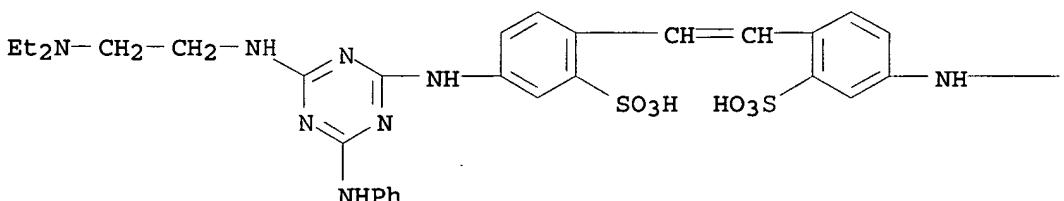
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 697768-37-9P 697768-39-1P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (amphoteric fluorescent whitening agents for paper)

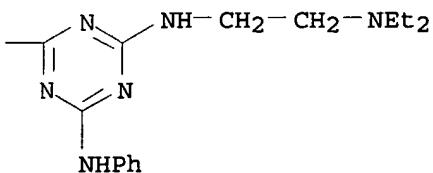
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



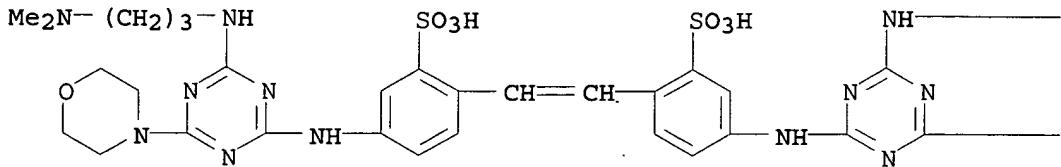
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MEI HUANG EIC1700 REM4B28 571-272-3952

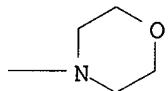
08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-(dimethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



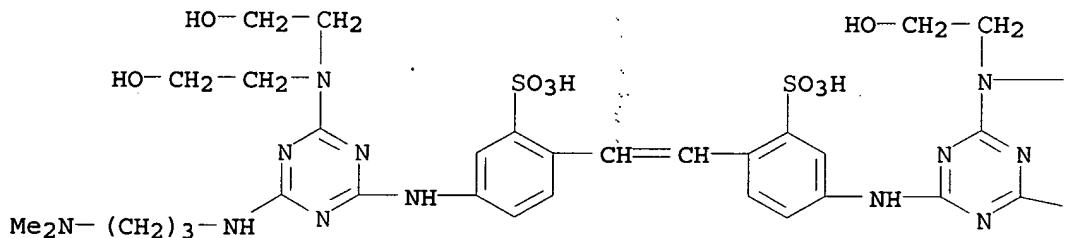
PAGE 1-B

—(CH₂)₃-NMe₂

RN 697767-93-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

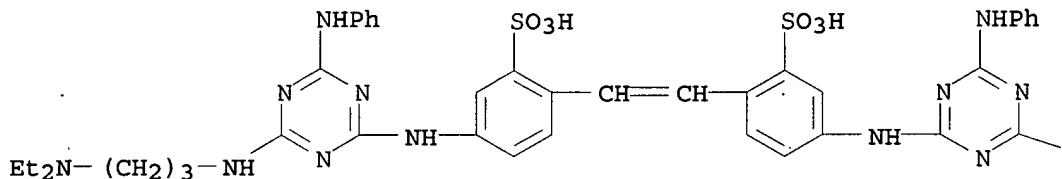
PAGE 1-B

—CH₂-CH₂-OH—NH—(CH₂)₃-NMe₂

RN 697767-97-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



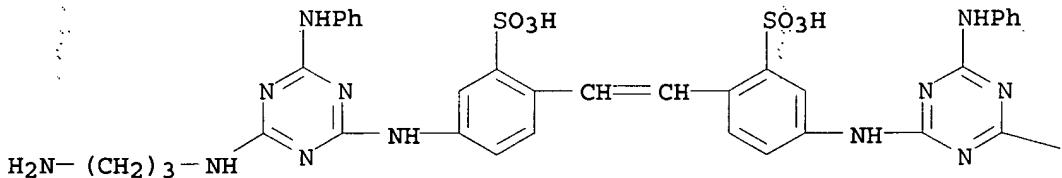
PAGE 1-B

-- NH-(CH₂)₃-NET₂

RN 697767-99-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-aminopropyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



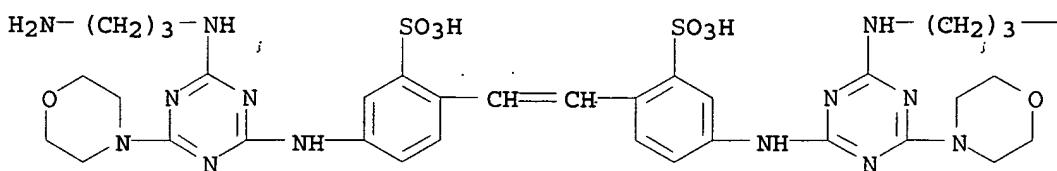
PAGE 1-B

-- NH-(CH₂)₃-NH₂

RN 697768-01-7 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-aminopropyl)amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— NH₂

RN 697768-03-9 HCPLUS

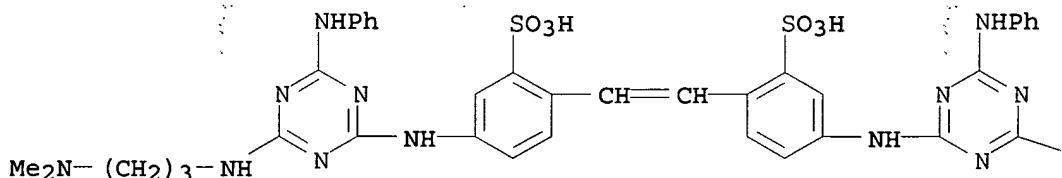
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-amino-propyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[(3-amino-propyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-[2-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenylethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

CRN 697768-02-8

CMF C40 H46 N14 O6 S2

PAGE 1-A



PAGE 1-B

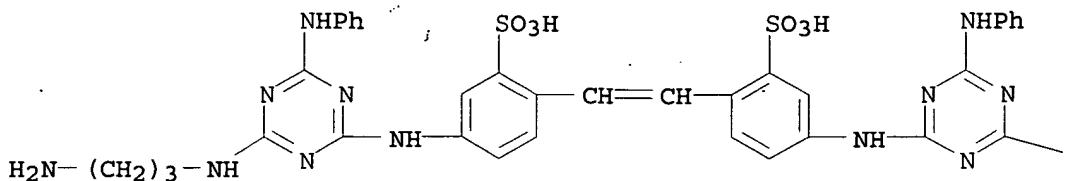
— NH-(CH₂)₃-NH₂

CM 2

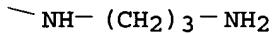
CRN 697767-99-0

CMF C38 H42 N14 O6 S2

PAGE 1-A



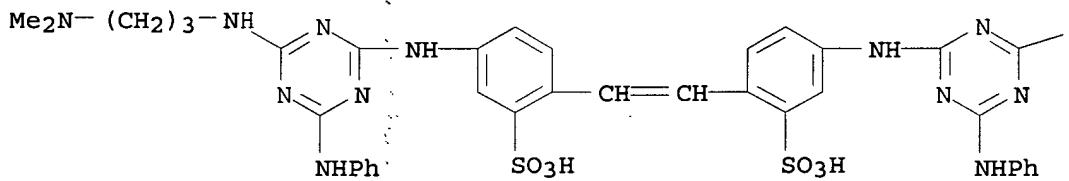
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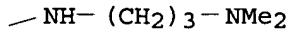
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CRN 19643-44-8
 CMF C42 H50 N14 O6 S2

PAGE 1-A

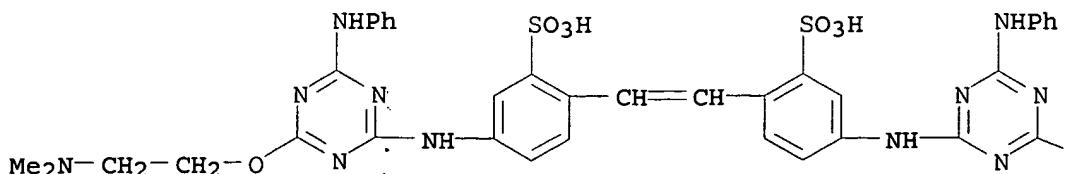


PAGE 1-B

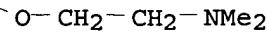


RN 697768-07-3 HCPLUS
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 (9CI) (CA INDEX NAME)

PAGE 1-A



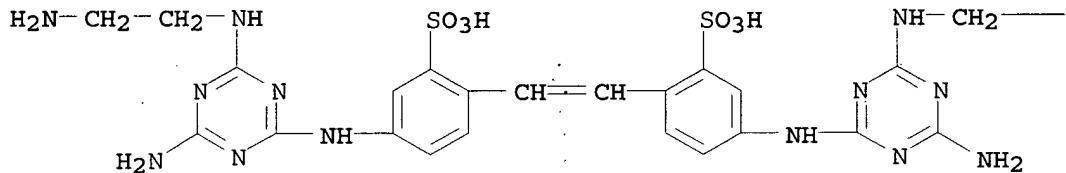
PAGE 1-B



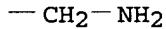
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-amino-6-[(2-aminoethyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



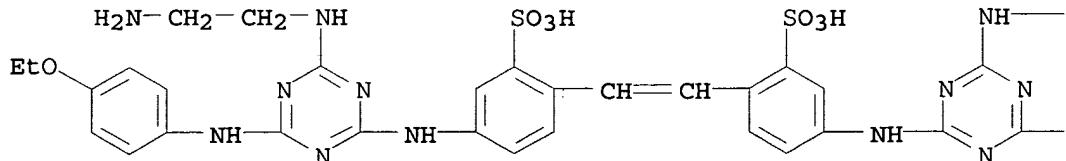
PAGE 1-B



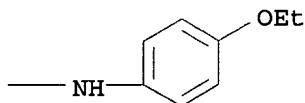
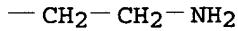
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-aminoethyl)amino]-6-[(4-ethoxyphenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

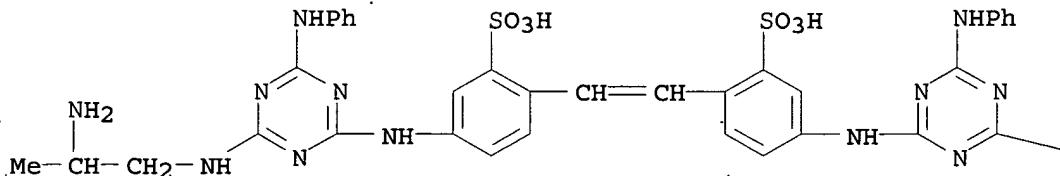


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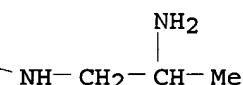
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aminopropyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



- IC ICM C11D003-42
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 ST bistriazinylaminostilbene amphoteric **fluorescent**
whitening agent paper
 IT **Fluorescent brighteners**
 Paper
 (amphoteric fluorescent whitening agents for
 paper)
 IT **Whitening agents**
 (**fluorescent whitening; amphoteric**
 fluorescent whitening agents for paper)
 IT 78-90-0, 1,2-Propylene diamine 78-96-6, 1-Aminopropan-2-ol
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 110-91-8, Morpholine, reactions 111-40-0, Diethylene triamine
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 (amphoteric **fluorescent whitening agents for**
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 (amphoteric **fluorescent whitening agents for**
 paper)
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RL: SPN (Synthetic preparation); PREP (Preparation)
 (amphoteric fluorescent whitening agents for
 paper)

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 (amphoteric fluorescent whitening agents for
 paper)

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L42 ANSWER 1 OF 3 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:453320 HCPLUS
 DOCUMENT NUMBER: 141:25251
 TITLE: Amphoteric fluorescent
 whitening agents for paper
 INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Fletcher,
 Ian John
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holdings Inc., Switz.
 SOURCE: PCT Int. Appl., 74 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004046293	A2	20040603	WO 2003-EP12583	200311 11

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WO 2003-EP12583 W 200311
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OTHER SOURCE(S) : MARPAT 141:25251
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Novel bis-triazinylaminostilbene amphoteric fluorescent
 whitening agents, comprising both individual components and

mixts. thereof, are used as fluorescent whitening agents for the fluorescent whitening of paper. Thus, a fluorescent whitening agent comprises a mixt. of compds. of the formula I, II and III in which A* represents a group of the formula IV, wherein A represents -X-Y-NR₃R₄ and C is -NR₁R₂ and B* represents a group of the formula V, VI and VII wherein D represents -NR₅R₆ and E represents -X₁-Y₁-NR₇R₈, whereby X and X₁ each, independently of each other, represent -O- or -NH-, Y and Y₁ each, independently of each other, represent a straight-chain C₂-C₈ alkylene or branched C₃-C₈ alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulfur atoms or represent a 5- or 6-membered cycloaliph. ring, R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C₁-C₈ alkyl, C₂-C₄ hydroxyalkyl, C₁-C₄ alkoxy C₁-C₄ alkyl, Ph, which is unsubstituted or substituted by halogen, C₁-C₄ alkoxy, C₁-C₄ alkyl or sulfonamido, or R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring, R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C₁-C₄ alkyl, C₂-C₄ hydroxyalkyl or R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and M represents hydrogen, an alk. or alk. earth metal, ammonium or alkylammonium. A process for their prepn. and intermediates useful for their prepn. are discussed.

IT

4028-32-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for
paper)

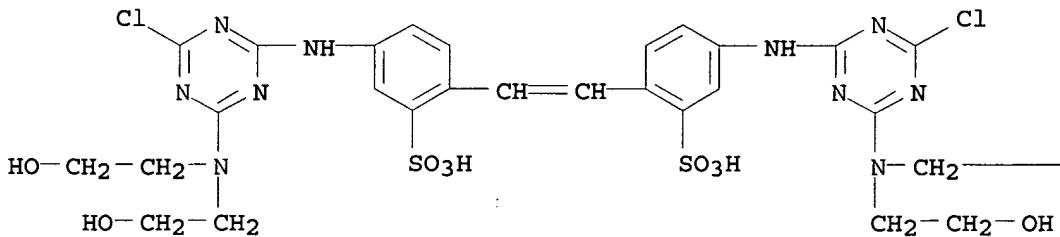
RN

4028-32-4 HCPLUS

CN

Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—CH₂—OH

IC ICM C11D003-42
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 ST bistriazinylaminostilbene amphoteric fluorescent
 whitening agent paper
 IT Fluorescent brighteners
 Paper
 (amphoteric fluorescent whitening agents for
 paper)
 IT Whitening agents
 (fluorescent whitening; amphoteric
 fluorescent whitening agents for paper)
 IT 78-90-0, 1,2-Propylene diamine 78-96-6, 1-Aminopropan-2-ol
 81-11-8 100-36-7 104-75-6, 2-Ethyl-1-hexylamine 104-78-9,
 3-N,N-Diethylamino-1-propylamine 107-15-3, Ethylenediamine,
 reactions 108-01-0 108-77-0, Cyanuric chloride 109-55-7
 109-76-2, 1,3-Diaminopropane 109-83-1, 2-N-Methylaminoethanol
 110-91-8, Morpholine, reactions 111-40-0, Diethylene triamine
 111-41-1, N-(2-Hydroxyethyl) ethylene diamine 122-98-5,
 2-Anilinoethanol 124-68-5, 2-Amino-2-methyl-1-propanol 156-43-4,
 p-Phenetidine 694-83-7, 1,2-Diaminocyclohexane 929-59-9
 4028-32-4 4461-39-6, 2-(3-Aminopropylamino) ethanol
 4985-85-7, N-(3-Aminopropyl)diethanolamine 13281-93-1
 37138-23-1 52205-59-1 52576-51-9
 213910-64-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)
 IT 28950-66-5P 602304-27-8P 697768-38-0P
 697768-42-6P 697768-49-3P 697768-51-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)
 IT 697767-94-5P 697767-95-6P 697767-96-7P
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 697768-06-2P 697768-09-5P 697768-11-9P
 697768-12-0P 697768-13-1P 697768-15-3P
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 697768-31-3P 697768-33-5P 697768-34-6P
 697768-35-7P 697768-40-4P 697768-41-5P
 697768-43-7P 697768-44-8P 697768-45-9P
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 697768-50-6P 697768-52-8P 697768-54-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (amphoteric fluorescent whitening agents for
 paper)
 IT 134198-37-1P 602304-09-6P 697767-93-4P

697767-97-8P 697767-99-0P 697768-01-7P
 697768-03-9P 697768-07-3P 697768-23-3P
 697768-36-8P 697768-37-9P 697768-39-1P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (amphoteric fluorescent whitening agents for paper)

L42 ANSWER 2 OF 3 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:678928 HCPLUS

DOCUMENT NUMBER: 139:216187

TITLE: Process for the treatment of textile fiber materials with fluorescent brighteners

INVENTOR(S): Kaschig, Juergen; Hochberg, Robert; Becherer, Oliver; Metzger, Georges; Eckhardt, Claude

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003070869	A1	20030828	WO 2003-EP1618	200302 18

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WO 2003070870	A1	20030828	WO 2003-EP1619	200302 18
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AU 2003205777	A1	20030909	AU 2003-205777	200302 18
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BR 2003006184	A	20041019	BR 2003-6184	 200302 18
BR 2003006187	A	20041019	BR 2003-6187	 200302 18
EP 1478724	A1	20041124	EP 2003-706527	 200302 18

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EP 1485460	A1	20041215	EP 2003-702652	 200302 18

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CN 1596300	A	20050316	CN 2003-801616	 200302 18

JP 2005517800	T2	20050616	JP 2003-569763	 200302 18

JP 2005517801	T2	20050616	JP 2003-569764	 200302 18

ZA 2004002941	A	20050111	ZA 2004-2941	 200404 19

ZA 2004002942	A	20050112	ZA 2004-2942	 200404 19

PRIORITY APPLN. INFO.:		EP 2002-405136	A	200202 25

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		WO 2003-EP1618	W	

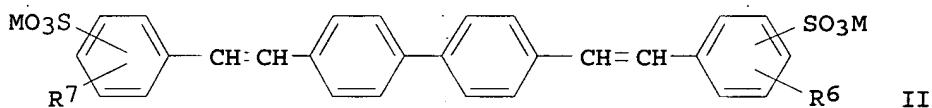
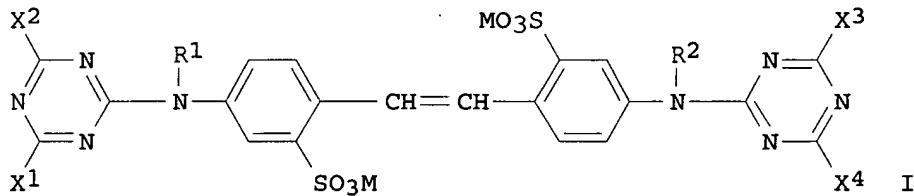
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WO 2003-EP1619

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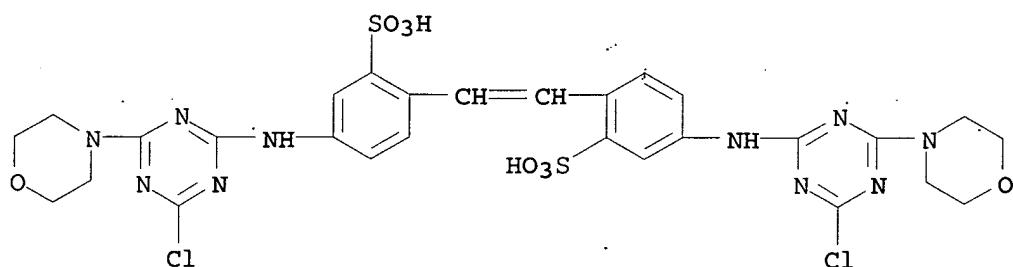
200302
18OTHER SOURCE(S) :
GI

MARPAT 139:216187



AB Laundry detergent compn. comprises (i) 1-70% of an anionic surfactant and/or a nonionic surfactant; (ii) 0-75% of a builder; (iii) 0-30% of a peroxide; (iv) 0-10% of a peroxide activator; and (v) 0.001-5% of a mixt. of compds. of formulas I and II of improved whitening property. Wherein a fluorescent whitening agent is of formula I, in which R1 and R2 are, independently of each other, hydrogen or unsubstituted or substituted C1-C8alkyl, X1, X2, X3 and X4 are, independently of each other, -N(R3)R4 or -OR5, wherein R3 and R4 are hydrogen, cyano, unsubstituted or substituted C1-C8alkyl or C5-C7cycloalkyl, or R3 and R4, together with the nitrogen atom linking them, form a heterocyclic ring, and R5 is unsubstituted or substituted C1-C8alkyl, and M is hydrogen or a cation. Wherein a fluorescent whitening agent is of formula I, in which R6 and R7, independently of each other, are hydrogen, C1-C8alkyl, C1-C8alkoxy or halogen, and M is as defined above under formula I. The textile fiber materials are treated with 0.05 to 3.0% by wt., based on the wt. of the textile fiber material, of the compd. of formula I, for enhanced whiteness.

IT 28950-66-5RL: RCT (Reactant); RACT (Reactant or reagent)
(laundry detergent contg. fluorescent brighteners)**RN** 28950-66-5 HCPLUS**CN** Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C11D003-42
 ICS C11D003-386
 CC 46-5 (Surface Active Agents and Detergents)
 ST fluorescent brightener laundry detergent
 bleaching
 IT Detergents
 (bleaching; laundry detergent contg. fluorescent
 brighteners)
 IT Textiles
 (cotton; laundry detergent contg. fluorescent
 brighteners)
 IT Polyamide fibers, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (fabrics; laundry detergent contg. fluorescent
 brighteners)
 IT Fluorescent brighteners
 (laundry detergent contg. fluorescent
 brighteners)
 IT Detergents
 (laundry; laundry detergent contg. fluorescent
 brighteners)
 IT Textiles
 (wool; laundry detergent contg. fluorescent
 brighteners)
 IT 75-04-7, Ethylamine, reactions 108-77-0, Cyanuric chloride
 110-73-6, 2-Ethylaminoethanol 110-91-8, Morpholine, reactions
 141-43-5, Ethanalamine, reactions 7336-20-1 27076-29-5
28950-66-5 52205-59-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (laundry detergent contg. fluorescent
 brighteners)
 IT 3654-77-1P 586962-95-0P 586962-96-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (laundry detergent contg. fluorescent
 brighteners)
 IT 5108-90-7P 586962-94-9P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (laundry detergent contg. fluorescent
 brighteners)
 IT 4470-72-8 20182-55-2 25295-51-6 27344-41-8 87777-77-3
 457883-29-3 586962-98-3 586962-99-4 586963-00-0 586963-01-1
 586963-02-2 586963-03-3 586963-04-4 586963-05-5

586963-06-6 586963-07-7 586963-08-8 586963-09-9
 586963-10-2 586963-11-3

RL: TEM (Technical or engineered material use); USES (Uses)
 (laundry detergent contg. fluorescent
 brighteners)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L42 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:466333 HCAPLUS

DOCUMENT NUMBER: 129:123760

TITLE: Preparation of triazinylaminostilbenes as
 ultra-violet absorbing agents for textile fibers

INVENTOR(S): Eckhardt, Claude; Metzger, Georges; Reinehr,
 Dieter; Sauter, Hanspeter; Dubini, Mario

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

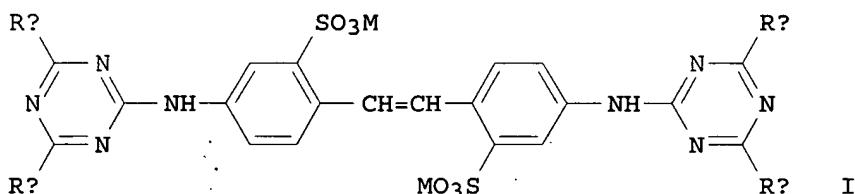
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 850934	A1	19980701	EP 1997-810986	199712 16
EP 850934	B1	20040310		<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
GB 2320714	A1	19980701	GB 1997-25501	199712 03
ES 2214601	T3	20040916	ES 1997-810986	199712 16
ZA 9711567	A	19980624	ZA 1997-11567	199712 23
AU 9749256	A1	19980625	AU 1997-49256	199712 23
AU 739556	B2	20011018		<--
CN 1191861	A	19980902	CN 1997-107278	199712 23
CN 1118461	B	20030820		<--
BR 9705635	A	19990518	BR 1997-5635	199712 23

US 5945396 A 19990831 US 1997-996895
199712
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JP 10182622 A2 19980707 JP 1997-354922
199712
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GB 1996-26851 A
199612
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OTHER SOURCE(S) : MARPAT 129:123760
GI

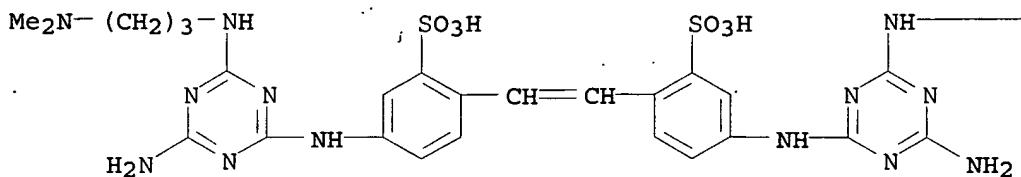


AB The present invention provides a compd. having the formula [I; in which each Rd is the same or different and each is NH-Z-N(Ra)(Rb) or N-[Z-N(Ra)(Rb)]₂ in which Z is C₂₋₁₄ alkylene or optionally substituted arylene, Ra and Rb are the same or different and each is C₁₋₁₂ alkyl, or Ra and Rb, together with the nitrogen atom to which they are each attached, form a morpholino, piperidino or piperazino ring; each Rc is the same or different and is NH₂, NH(C₁₋₄ alkyl), N(C₁₋₄ alkyl)₂, N(CH₂CH₂OH)₂, O-C₁₋₄ alkyl, p-(MO₂C)C₆H₄NH, (MO₃S)C₆H₄NH, or morpholino and M is hydrogen, an alkali metal atom, ammonium or a cation formed from an amine] or a quaternized form thereof. The present invention also relates to a compn. for the treatment of textiles, in particular to a compn. contg. the new ultra-violet absorbing agents; and to a method for the improvement of both the sun protection factor (UPF) and the whiteness of textile fiber material, comprising treating the material with the compn. according to the present invention. Thus, I (Rd = C₁, Rc = NH₂, M = Na) was heated with 3-dimethylamino-1-propylamine in an oil bath held at 90° to give I [Rd = NH(CH₂)₃NMe₂, Rc = NH₂, M = Na] (II). A rinse cycle softener base compn. contg. 2.7% II, distearyldimethylammonium chloride, fatty alc. ethoxylate, and deionized water was prep'd. The latter compn. improved the Ganz whiteness and UPF of a cotton fabric.

IT 210101-79-4P
RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

RN 210101-79-4 HCAPLUS
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-amino-6-[(3-(dimethylamino)propyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— (CH₂)₃—NMe₂

IC ICM C07D251-54
 ICS D06M013-355
 CC 40-7 (Textiles and Fibers)
 IT Quaternary ammonium compounds, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (UV-absorbing compns. contg.; prepn. of
 triazinylaminostilbenes as ultra-violet absorbing agents for
 textile fibers)
 IT 210101-78-3P 210101-79-4P 210101-81-8P
 210101-82-9P 210101-83-0P 210101-84-1P
 210101-85-2P 210101-86-3P
 RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic
 preparation); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (prepn. of triazinylaminostilbenes as ultra-violet absorbing
 agents for textile fibers)
 IT 51-05-8, Procaine hydrochloride 104-78-9, 3-Diethylamino-1-
 propylamine 108-00-9, 2-Dimethylaminoethylamine 109-01-3,
 1-Methylpiperazine 109-55-7, 3-Dimethylamino-1-propylamine
 123-12-6, N,N,N',N'-Tetraethyldiethylenetriamine 37138-23-1
 37138-25-3 52205-59-1 210102-12-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of triazinylaminostilbenes as ultra-violet absorbing
 agents for textile fibers)
 REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
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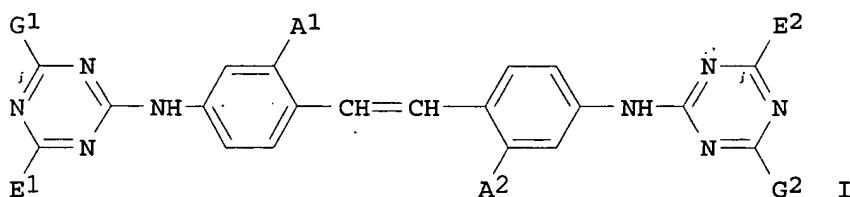
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L45 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:757686 HCAPLUS
 DOCUMENT NUMBER: 139:262239
 TITLE: Amphoteric and cationic fluorescent brighteners,
 their production and their use
 INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Schlatter,
 Rene; Deisentoth, Ted
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., USA

SOURCE: PCT Int. Appl., 56 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003078406	A1	20030925	WO 2003-EP2620	200303 13
WO 2003078406	C1	20040115		
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AU 2003227060	A1	20030929	AU 2003-227060	200303 13
EP 1485361	A1	20041215	EP 2003-744360	200303 13
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US 2005161184	A1	20050728	US 2003-508444	200303 13
JP 2005529854	T2	20051006	JP 2003-576412	200303 13
PRIORITY APPLN. INFO.:			EP 2002-405211	A 200203 19
			WO 2003-EP2620	W 200303 13

OTHER SOURCE(S): MARPAT 139:262239
 GI



AB Fluorescent brighteners (I; A1, A2 = sulfo or sulfonate anion; E1, E2 = optionally substituted piperazino; G1, G2 = optionally substituted alkylene diamine attached through N) are obtained from cyanuric chloride or amine-substituted triazines. I are not adversely affected by the presence of cationic polymers used in paper prodn. or by anionic brighteners. In an example, 1-methylpiperazine was treated (2:1) with 4,4'-bis[(4-anilino-6-chloro-1,3,5-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid disodium salt to provide a fluorescent brightener.

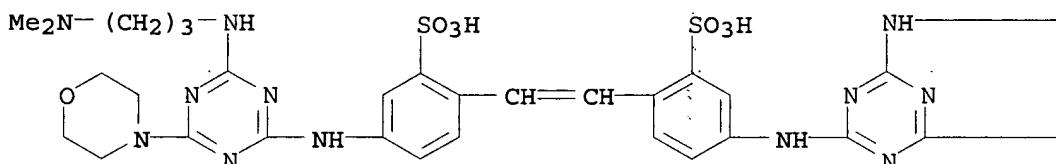
IT 602304-09-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(brightener; prodn. of piperazine- and triazine-based amphoteric and cationic fluorescent brighteners)

RN 602304-09-6 HCPLUS

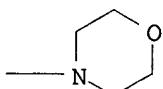
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(dimethylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— (CH₂)₃—NMe₂



IC ICM C07D251-68

ICS D21H021-30; C07D251-50

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 28

IT 602303-67-3P 602303-70-8P 602303-80-0P 602303-85-5P
602303-93-5P 602304-04-1P 602304-07-4P 602304-09-6P
602304-14-3P 602304-16-5P 602304-19-8P 602304-22-3P
602304-23-4P 602304-24-5P 602304-25-6P 602304-26-7P
602304-28-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (brightener; prodn. of piperazine- and triazine-based amphoteric and cationic fluorescent brighteners)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:249766 HCAPLUS

DOCUMENT NUMBER: 114:249766

TITLE: Liquid detergent compositions containing fluorescent brighteners

INVENTOR(S): Schuessler, Ulrich; Seng, Florian

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

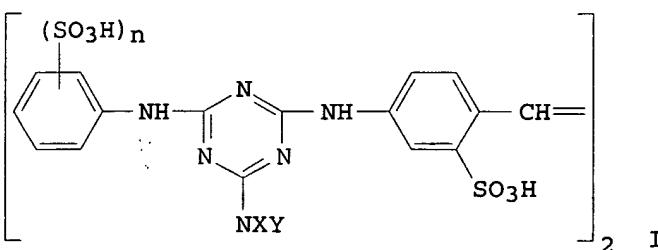
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3922494	A1	19910117	DE 1989-3922494	198907 08
EP 413926	A1	19910227	EP 1990-111940	199006 23
R: CH, DE, FR, GB, IT, LI JP 03045699	A2	19910227	JP 1990-172830	199007 02
CA 2020666	AA	19910109	CA 1990-2020666	199007 06
PRIORITY APPLN. INFO.:			DE 1989-3922494	A 198907 08

OTHER SOURCE(S): MARPAT 114:249766

GI



AB The title compns. contain nonionic and cationic surfactants and stilbene brighteners I (X = H, Cl-4 alkyl, CH2CH2Z, Y; Y = ANVW; XY

= CH₂CH₂NRCH₂CH₂CH₂; A = C₂-6 alkylene, R₁OR₁; R₁ = C₂-6 alkylene; V, W = C₁-4 alkyl optionally contg. OH or NR₂; VW = CH₂CH₂TCH₂CH₂; T = O, S, NR, CH₂; Z = OH, CN, CO₂R, CONH₂, CONR₂; R = C₁-4 alkyl; n = 0-2) contg. cationic groups and impart good brightness and a soft feel to fabrics during laundering. A compn. prep'd. by adding ethoxylated (10 mol) C₁₂-14 fatty acid 18, dimethyldi(tallow alkyl)ammonium chloride 5, and H₂O .apprx.71.5 parts to a dispersion of 0.1 parts I (X = H; Y = CH₂CH₂NET₂; n = 0) in 5.5 part EtOH was used for the laundering of soiled cotton fabrics, giving good cleaning and brightening.

IT 134198-37-1

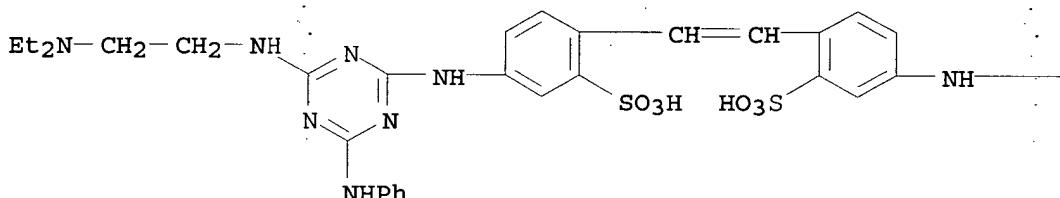
RL: USES (Uses)

(fluorescent brighteners, liq. detergent compns. contg.)

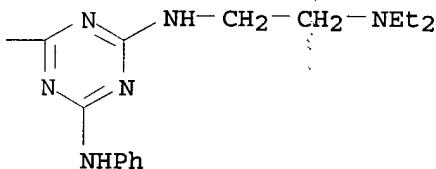
RN 134198-37-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C11D003-42

ICS C11D009-44; C11D017-08; C07D251-68

CC 46-5 (Surface Active Agents and Detergents)

IT 134198-37-1 134198-38-2 134198-39-3 134216-04-9

135247-38-0

RL: USES (Uses)

(fluorescent brighteners, liq. detergent compns. contg.)

=> d 146 ibib abs hitstr hitind 1-32

L46 ANSWER 1 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:241981 HCPLUS

DOCUMENT NUMBER: 138:273343

TITLE: Water-soluble single-use laundry detergent package with fluorescent dye in the film

INVENTOR(S): Hsu, Feng-Lung Gordon; Giblin, Edward John; Lee,

PATENT ASSIGNEE(S) : Kwang H.
 SOURCE: Unilever Home and Personal Care, USA, USA
 U.S. Pat. Appl. Publ., 5 pp.
 CODEN: USXXCO

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003060387	A1	20030327	US 2001-957329	200109 20
WO 2003026982	A1	20030403	WO 2002-EP10127	200209 10

<--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
 TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
 TG

PRIORITY APPLN. INFO.: US 2001-957329 A
 200109
 20

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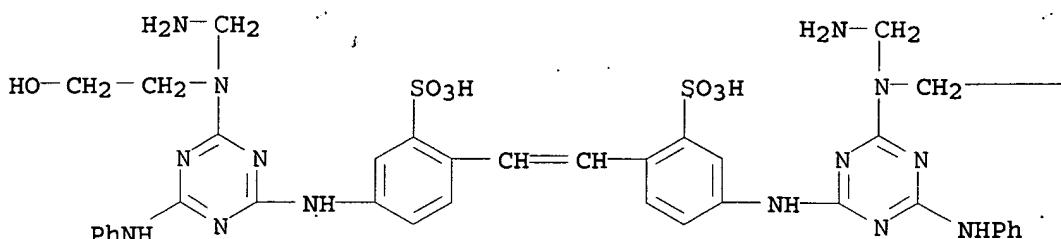
AB A water-sol. package for use in a single cleaning application
 comprises: (a) a detergent compn. for release on dissoln.
 of the package, (b) a water-sol. body portion such as polyvinyl alc.
 for contg. the compn., the body portion comprising a
 water-sol. film compn., the film compn.
 comprising about 0.01% - 20 wt% of the film compn., of a
 fluorescent dye which has a solv. in distd. deionized water
 at 25 °C of less than about 6%.

IT 169762-28-1, Tinopal 5BMGX
 RL: TEM (Technical or engineered material use); USES (Uses)
 (water-sol. laundry detergent package with fluorescent
 dye incorporated in the film)

RN 169762-28-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-
 [(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂— OH

IC ICM C11D017-00
 INCL 510296000; 510301000
 CC 46-6 (Surface Active Agents and Detergents)
 ST polyvinylalcl laundry detergent package film fluorescent dye
 IT Brightening
 (agents; water-sol. laundry detergent package with fluorescent dye incorporated in the film)
 IT Detergents
 (laundry, liq.; water-sol. laundry detergent package with fluorescent dye incorporated in the film)
 IT Fluorescent dyes
 (water-sol. laundry detergent package with fluorescent dye incorporated in the film)
 IT 9002-89-5, Polyvinyl alcohol
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (C 120T; water-sol. laundry detergent package with fluorescent dye incorporated in the film)
 IT 169762-28-1, Tinopal 5BMGX
 RL: TEM (Technical or engineered material use); USES (Uses)
 (water-sol. laundry detergent package with fluorescent dye incorporated in the film)

L46 ANSWER 2 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1999:640956 HCPLUS
 DOCUMENT NUMBER: 131:273416
 TITLE: Water-soluble sunscreens and detergent compositions containing them
 INVENTOR(S): Cox, Russell Duncan; Finch, Timothy David;
 Griffiths, John; Maddison, Christopher; Wilkes,
 Ian Paul
 PATENT ASSIGNEE(S): Unilever PLC, UK; Unilever N.V.; Hindustan Lever Ltd.
 SOURCE: PCT Int. Appl., 33 pp.

CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9950379	A1	19991007	WO 1999-EP1962	199903 23

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 CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
 IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
 MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,
 SI, SK, SL, TJ, TM, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9935980	A1	19991018	AU 1999-35980	199903 23
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PRIORITY APPLN. INFO.:	GB 1998-7073	A	199804 01
	GB 1998-7074	A	199804 01
	WO 1999-EP1962	W	199903 23

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OTHER SOURCE(S): MARPAT 131:273416

AB A sunscreen agent which is a non-dye, substantially non-fluorescent, non-quaternary ammonium compd. which absorbs UVA and/or UVB radiation is incorporated ($\geq 5\%$, preferably $\geq 7.5\%$, more preferably $\geq 10\%$) in a detergent and in a test deposited on a sheet of cotton-fabric by a soln. of 0.2 g/L of the agent in H₂O for 1 h at 21° at a soln.:sheet wt. ratio 25:1, (preferably followed by rinsing) and then followed by drying. A typical powd. detergent contained water 12.5, Na linear alkylbenzenesulfonate 23.6, Na tripolyphosphate 19.2, Na silicate 4.8, sunscreen 0.2, SCMC 0.4, Na sulfate 28.6, calcite 10.3, and minors 0.4%.

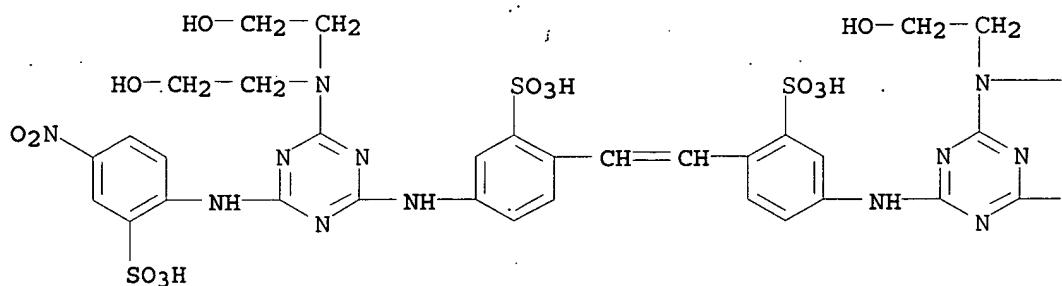
IT 245335-51-7 245335-52-8

RL: MOA (Modifier or additive use); USES (Uses)
 (water-sol. sunscreens for detergents)

RN 245335-51-7 HCPLUS

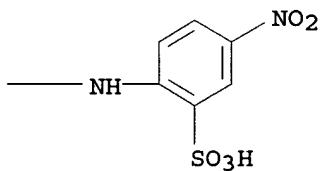
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-[(4-nitro-2-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

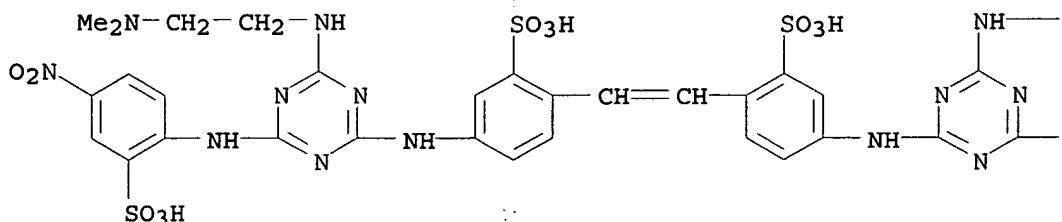
PAGE 1-B

 $\text{---CH}_2-\text{CH}_2-\text{OH}$ 

RN 245335-52-8 HCPLUS

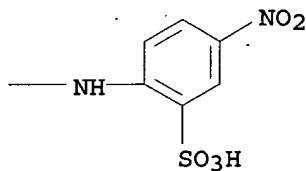
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(2-dimethylamino)ethyl]amino]-6-[(4-nitro-2-sulfophenoxy)ethyl]amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B

 $\text{---CH}_2\text{---CH}_2\text{---NMe}_2$ 

IC ICM C11D003-28
 CC 46-5 (Surface Active Agents and Detergents)
 IT 245335-50-6 245335-51-7 245335-52-8
 RL: MOA (Modifier or additive use); USES (Uses)
 (water-sol. sunscreens for detergents)
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L46 ANSWER 3 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:623233 HCAPLUS
 DOCUMENT NUMBER: 127:279863
 TITLE: Powder detergent composition and
 method of making
 INVENTOR(S): Brouwer, Steven J.; Wint, Michael J.
 PATENT ASSIGNEE(S): Amway Corporation, USA; Brouwer, Steven J.;
 Wint, Michael J.
 SOURCE: PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9733961	A1	19970918	WO 1997-US3865	199703 10

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
 DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR,
 KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,
 NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA,
 UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR,
 GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,
 GA, GN, ML, MR, NE, SN, TD, TG

US 5714451	A	19980203	US 1996-616442	199603 15
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CA 2248991	AA	19970918	CA 1997-2248991	199703 10
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CA 2248991	C	20011030	<--
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AU 9720770	A1	19971001	AU 1997-20770	
				199703 10

AU 716957	B2	20000309		
EP 888426	A1	19990107	EP 1997-909015	
				199703 10

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1218501	A	19990602	CN 1997-194672	
				199703 10

JP 11509574	T2	19990824	JP 1997-532791	
				199703 10

JP 3217376	B2	20011009		
US 6080711	A	20000627	US 1998-41060	
				199803 10

PRIORITY APPLN. INFO.:		US 1996-616442	A2	
				199603 15

		WO 1997-US3865	W	
				199703 10

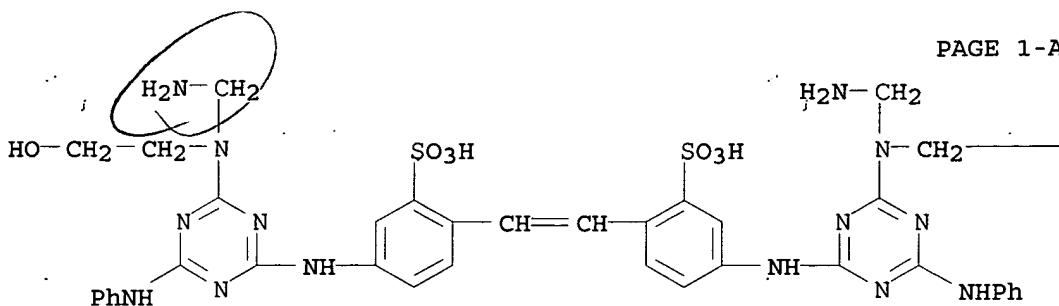
AB The title detergent comprises (a) a powder laundry detergent base that includes an inorg. carrier and a surfactant and (b) post-added acidulant and discrete whitening agent particles to provide a detergent having improved cool water solv. with bulk color deterioration caused by whitening agents being minimized. The detergent includes 5-80% inorg. carrier, 1-90% detergent surfactant, 0.1-15% acidulant and 0.1-30% whitening agent particles. The acidulant is selected from the group of acids that in an acid form are sol. in water in an amt. not greater than about 8% and in a salt form are sol. in water at least in an amt. of about 15%. In a more preferred form, the whitening agent particles consist of a whitening agent, a surfactant, preferably an anionic surfactant, and water. A detergent contained Na₂CO₃ 55.88, Tinopal SWN 0.02, Sipernat 50 3.0, CM-cellulose 2.0, Neodol 25-7, citric acid 7.5, water 4.0, fumaric acid 5.0, and perfumes and other additives 3.1%.

IT 169762-28-1, Tinopal 5BM-GX

RL: TEM (Technical or engineered material use); USES (Uses)
(powder detergent compn. and method of making)

RN 169762-28-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

PAGE 1-B

— CH₂ — OH

IC ICM C11D001-86
 ICS C11D003-42; C11D007-08; C11D011-00; C11D017-06
 CC 46-5 (Surface Active Agents and Detergents)
 ST powder laundry detergent compn; whitening agent
 powder laundry detergent; acidulant powder laundry detergent
 IT Alcohols, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C12-15, ethoxylated, Neodol 25-7, Pareth 25-7; powder detergent
 compn. and method of making)
 IT Alcohols, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C14-15, ethoxylated, Pareth 45-7; powder detergent compn
 . and method of making)
 IT Detergents
 (laundry, granular; powder detergent compn. and method
 of making)
 IT Surfactants
 Whitening agents
 (powder detergent compn. and method of making)
 IT Acids, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (powder detergent compn. and method of making)
 IT 77-92-9, Citric acid, uses 91-44-1, Tinopal SWN 110-15-6,
 Succinic acid, uses 110-17-8, Fumaric acid, uses 124-04-9,
 Adipic acid, uses 4193-55-9, Tinopal UNPA-GX 9004-32-4,
 Carboxymethylcellulose 10043-35-3, Boric acid, uses 27344-41-8,
 Tinopal CBS-X 169762-28-1, Tinopal 5BM-GX 196109-62-3,
 Optiblanc 2M/G-LT
 RL: TEM (Technical or engineered material use); USES (Uses)
 (powder detergent compn. and method of making)

L46 ANSWER 4 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:623231 HCAPLUS
 DOCUMENT NUMBER: 127:264581
 TITLE: Discrete whitening agent particles,

method of making, and powder detergent containing same
INVENTOR(S): Brouwer, Steven J.; Wint, Michael J.
PATENT ASSIGNEE(S): Amway Corporation, USA; Brouwer, Steven J.;
Wint, Michael J.
SOURCE: PCT Int. Appl., 52 pp.
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9733958	A1	19970918	WO 1997-US3740	199703 10
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W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, US, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5714456	A	19980203	US 1996-616208	199603 15
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US 5714450	A	19980203	US 1996-616217	199603 15
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US 5714452	A	19980203	US 1996-616570	199603 15
<--				
AU 9720750	A1	19971001	AU 1997-20750	199703 10
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TW 473543	B	20020121	TW 1997-86103216	199703 14
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US 5998351	A	19991207	US 1998-41063	199803 10
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PRIORITY APPLN. INFO.:			US 1996-616208	A2 199603 15
<--				
			US 1996-616217	A2 199603 15
<--				
			US 1996-616570	A2

199603

15

<--
WO 1997-US3740

W

199703

10

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AB The title whitening agent particles include a whitening agent and a surfactant. The surfactant for the whitening agent particle includes those anionics, nonionics, zwitterionics, ampholytics, cationics, and mixts. thereof that are solids at 0-82°. A powd. laundry detergent is provided with discrete whitening agent particles that do not adversely affect the bulk appearance of the detergent during storage. The detergent includes 5-80% of an inorg. carrier, 1-90% of a detergent surfactant, and 0.1-30% of the discrete whitening agent particles. The whitening agent particles, in a more desirable form, include a whitener and water. The particles are formed by extruding a homogeneous mass into discrete particles.

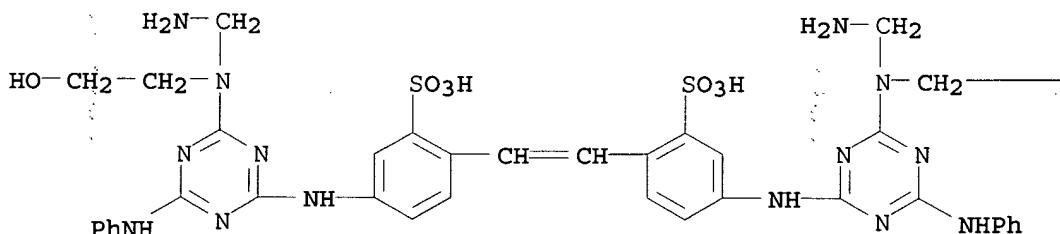
IT 169762-28-1, Tinopal 5BM-GX

RL: TEM (Technical or engineered material use); USES (Uses)
(discrete whitening agent particles, method of making,
and powder detergent contg. same)

RN 169762-28-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—CH₂—OH

IC ICM C11D001-66
ICS C11D003-42; C11D011-00; C11D017-06

CC 46-4 (Surface Active Agents and Detergents)

ST discrete whitening agent particle; surfactant
whitening agent particle

IT Alcohols, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(C12-15, ethoxylated; discrete whitening agent
particles, method of making, and powder detergent contg. same)

IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(C14-15, ethoxylated, Pareth 45-7; discrete whitening
agent particles, method of making, and powder detergent contg.
same)

IT Surfactants
Whitening agents
(discrete whitening agent particles, method of making,
and powder detergent contg. same)

IT Detergents
(laundry, granular; discrete whitening agent particles,
method of making, and powder detergent contg. same)

IT 110-17-8, 2-Butenedioic acid (E)-, uses 151-21-3, uses 497-19-8,
Sodium carbonate, uses 822-16-2, Sodium stearate 4193-55-9,
Tinopal UNPA-GX 7664-93-9D, Sulfuric acid, alkyl derivs., sodium
salt, uses 27344-41-8, Tinopal CBS-X 169762-28-1,
Tinopal 5BM-GX 196109-62-3, Optiblanc 2M/G-LT
RL: TEM (Technical or engineered material use); USES (Uses)
(discrete whitening agent particles, method of making,
and powder detergent contg. same)

L46 ANSWER 5 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:168525 HCAPLUS
DOCUMENT NUMBER: 126:159055
TITLE: Detergent composition comprising clay
softening system and hydrophilic
brightener
INVENTOR(S): Fredj, Abdennaceur; Lappas, Dimitris;
Cauwberghs, Serge Gabriel Pierre Roger
PATENT ASSIGNEE(S): Procter & Gamble Company, USA
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 753567	A1	19970115	EP 1995-201943	199507 14

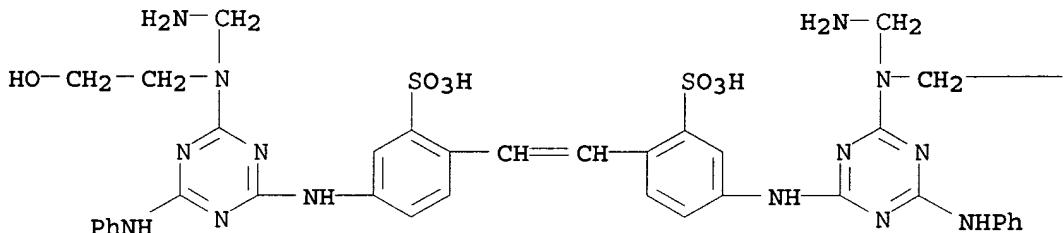
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT,
SE

PRIORITY APPLN. INFO.: EP 1995-201943
199507
14

OTHER SOURCE(S): MARPAT 126:159055
AB A liq., granular, paste, bar or gel compn. providing
fabric softening through the wash cycle comprises smectitic clay
softener and 4,4'-bis[(4-anilino-6-(N-2-bishydroxyethyl)-s-triazin-2-
yl)amino]-2,2'-stilbenedisulfonic acid di-Na salt (Tinopal UNPA-GX)
or 4,4'-bis[(4-anilino-6-(N-2-hydroxyethyl-N-methylamino)-s-triazin-
2-yl)amino]-2,2'-stilbenedisulfonic acid di-Na salt (Tinopal 5BM-GX)

as hydrophilic brightener.
 IT 169762-28-1, Tinopal 5BM-GX
 RL: MOA (Modifier or additive use); USES (Uses)
 (brightener; detergent compn. comprising clay
 softening system and hydrophilic brightener)
 RN 169762-28-1 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-
 [(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—CH₂—OH

IC ICM C11D003-12
 ICS C11D003-42
 CC 46-6 (Surface Active Agents and Detergents)
 Section cross-reference(s): 40
 ST detergent compn clay softener hydrophilic
 brightener; clay smectitic softener detergent hydrophilic
 brightener; stilbenedisulfonate
 anilinobishydroxyethyltriazinylamino brightener detergent
 compn; hydroxyethyltriazinylaminoanilinostilbenedisulfonate
 brightener detergent clay fabric softener;
 triazinylaminostilbenedisulfonate brightener detergent
 compn clay softener
 IT Brightening
 (agents, triazinylaminostilbenedisulfonate derivs.; detergent
 compn. comprising clay softening system and hydrophilic
 brightener)
 IT Detergents
 (detergent compn. comprising clay softening system and
 hydrophilic brightener)
 IT Fabric softeners
 (smectitic clays; detergent compn. comprising clay
 softening system and hydrophilic brightener)
 IT Clays, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (smectitic, fabric softeners; detergent compn.)

comprising clay softening system and hydrophilic
brightener)

IT 4193-55-9, Tinopal UNPA-GX 169762-28-1, Tinopal 5BM-GX
RL: MOA (Modifier or additive use); USES (Uses)
(brightener; detergent compn. comprising clay
softening system and hydrophilic brightener)

L46 ANSWER 6 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:896246 HCPLUS

DOCUMENT NUMBER: 123:290536

TITLE: Laundry detergent compositions with
dye-transfer inhibition effect

INVENTOR(S): Panandiker, Rajan Keshav; Wertz, William Conrad;
Hugues, Larry James

PATENT ASSIGNEE(S): Procter and Gamble Co., USA

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9513354	A1	19950518	WO 1994-US11509	199410 11
				<--
W: AM, AU, BB, BG, BR, BY, CA, CH, CN, CZ, EE, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, NO, NZ, PL, RO, RU, SI, SK, TJ, TT, UA, UZ, VN				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5466802	A	19951114	US 1993-150644	199311 10
				<--
CA 2174722	AA	19950518	CA 1994-2174722	199410 11
				<--
AU 9479319	A1	19950529	AU 1994-79319	199410 11
				<--
EP 728184	A1	19960828	EP 1994-930090	199410 11
				<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
BR 9408024	A	19961217	BR 1994-8024	199410 11
				<--
CN 1139954	A	19970108	CN 1994-194711	199410 11

JP 09505096

T2 19970520

JP 1994-513823

199410
11<--
US 1993-150644A
199311
10<--
WO 1994-US11509W
199410
11

PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 123:290536

AB Detergent compns. suitable for washing colored fabrics in aq. washing soln. with little or no transfer of dye between fabrics comprise surfactants, detergent builders, certain selected polymeric dye transfer inhibiting agents, and certain selected hydrophilic optical brighteners. The polymeric dye transfer inhibiting agents are polyamine N-oxides such as poly(4-vinylpyridine-N-oxide) and copolymers of N-vinylpyrrolidone and N-vinylimidazole. The optical brighteners are selected from certain stilbenedisulfonic acid salts such as 4,4'-bis[(4-anilino-6-(N-2-bishydroxyethyl)-s-triazine-2-yl)amino]-2,2'-stilbenedisulfonic acid disodium salt.

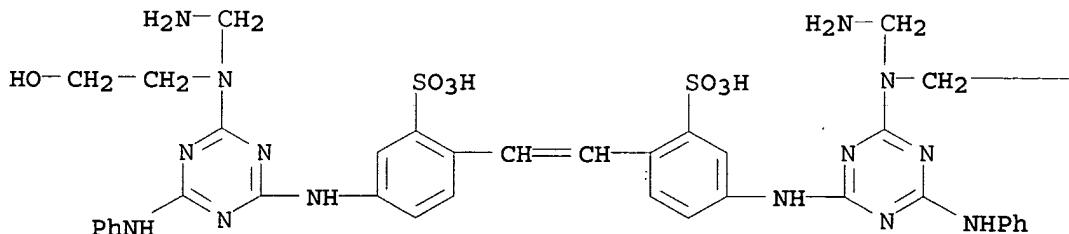
IT 169762-28-1, Tinopal 5BM-GX

RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 TEM (Technical or engineered material use); USES (Uses)
 (laundry detergent compns. with dye-transfer inhibition effect)

RN 169762-28-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(aminomethyl)(2-hydroxyethyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂ — OH

IC ICM C11D003-42
 ICS C11D003-00; C11D003-37
 CC 46-6 (Surface Active Agents and Detergents)
 ST detergent laundry brightener dye transfer inhibition;
 polyamine oxide dye transfer inhibition
 IT Sulfonic acids, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (alkylbenzene or alkyl polyethoxylated; laundry detergent
 compns. with dye-transfer inhibition effect)
 IT Aluminosilicates, uses
 Detergents
 Enzymes
 Zeolites, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (laundry detergent compns. with dye-transfer inhibition
 effect)
 IT Fatty acids, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (C12-16, laundry detergent compns. with dye-transfer
 inhibition effect)
 IT Polyoxyalkylenes, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (alkyl group-terminated, laundry detergent compns. with
 dye-transfer inhibition effect)
 IT Amides, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (fatty, laundry detergent compns. with dye-transfer
 inhibition effect)
 IT Alcohols, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (fatty, ethoxylated, laundry detergent compns. with
 dye-transfer inhibition effect)
 IT Detergents
 (laundry, laundry detergent compns. with dye-transfer
 inhibition effect)
 IT 50-70-4D, D-Glucitol, N-Me glucamides 4193-55-9, Tinopal UNPA-GX
 26715-00-4, Poly(4-vinylpyridine)-N-oxide 29297-55-0,
 N-Vinylimidazole-N-vinylpyrrolidone copolymer 169762-28-1,
 Tinopal 5BM-GX
 RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 TEM (Technical or engineered material use); USES (Uses)
 (laundry detergent compns. with dye-transfer inhibition
 effect)
 IT 68-04-2, Trisodium citrate 77-92-9, uses 141-43-5, uses
 7664-93-9D, Sulfuric acid, alkyl esters 34870-92-3D, ethers
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (laundry detergent compns. with dye-transfer inhibition
 effect)

L46 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1992:237364 HCAPLUS
 DOCUMENT NUMBER: 116:237364
 TITLE: Reactive pyridone azo dyes, their preparation

and use

INVENTOR(S): Ridyard, Denis Robert Annesley
 PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK
 SOURCE: Eur. Pat. Appl., 17, pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

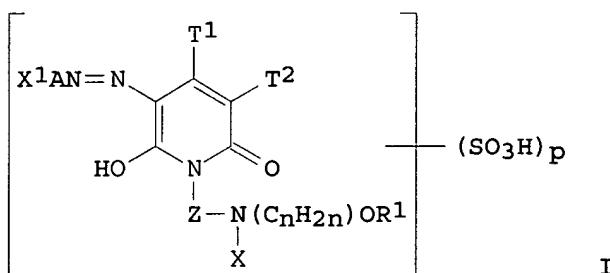
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 471454	A1	19920219	EP 1991-306588	199107 19
EP 471454	B1	19961204		<--
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
AT 145930	E	19961215	AT 1991-306588	
AU 9181240	A1	19920220	AU 1991-81240	199107 23
AU 640032	B2	19930812		<--
ZA 9105810	A	19920624	ZA 1991-5810	199107 24
US 5175261	A	19921229	US 1991-739099	199108 01
BR 9103364	A	19920505	BR 1991-3364	199108 05
CA 2048767	AA	19920216	CA 1991-2048767	199108 08
FI 9103792	A	19920216	FI 1991-3792	199108 09
FI 100189	B1	19971015		<--
NO 9103169	A	19920217	NO 1991-3169	199108 14
JP 04261158	A2	19920917	JP 1991-204139	199108 14
PRIORITY APPLN. INFO.:			GB 1990-17869	A
				199008 15

<--
GB 1991-15682

199107
19

<--

OTHER SOURCE(S) : MARPAT 116:237364
GI



AB The dyes are water-sol. I [A = (un)substituted phenylene or naphthylene; R1 = H, SO₃H; T1, T2 = H, CN, CO₂R₂, CONR₂R₃, COR₂, alkyl, aralkyl, cycloalkyl, aryl, heterocyclyl; R₂, R₃ = H, C₁-6-alkyl; X = cellulose-reactive group; X₁ = H, cellulose-reactive group; n = 2-6; p ≥ 1] or their salts. 3-Cyano-6-hydroxy-1-[2-(2-hydroxyethylamino)ethyl]-4-methyl-2-pyridinone was heated at 130° with 78% H₂SO₄ to give a .apprx.3:1 mixt. of 6-hydroxy-1-[2-(2-hydroxyethylamino)ethyl]-4-methyl-2-pyridinone and its sulfate, which was coupled with diazotized 2,1,5-H₂NC₁₀H₅(SO₃H)₂. The product was condensed (2:1) with the 2:1 condensate of cyanuric chloride and 4,4'-diaminostilbene-2,2'-disulfonic acid to give a bis(chlorotriazine) mixt., which dyed cellulose fibers and leather fast bright greenish yellow shades.

IT 141281-48-3 141281-49-4 141281-50-7

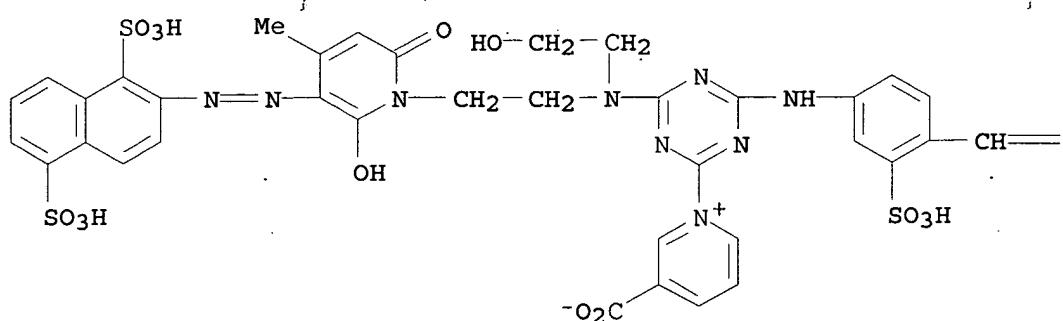
RL: USES (Uses)

(prep. of mixts. contg., as yellow dyes for cellulosic fibers)

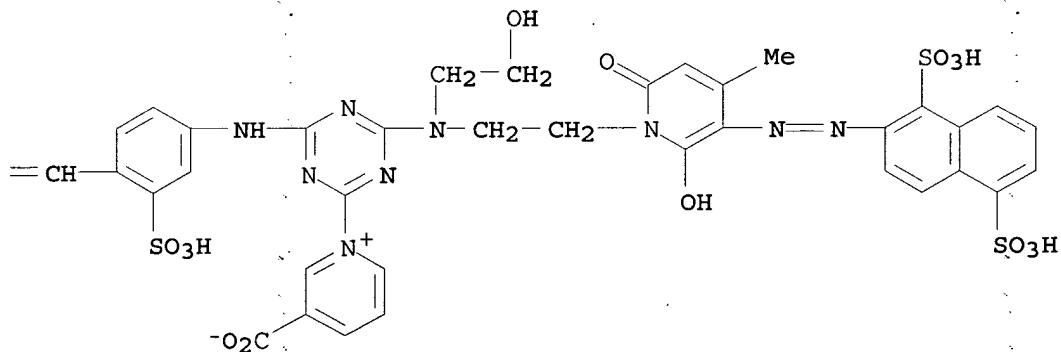
RN 141281-48-3 HCPLUS

CN Pyridinium, 1,1'-(1,2-ethenediylyl)bis[(3-sulfo-4,1-phenylene)imino[6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl](2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyll]]bis[3-carboxy-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A



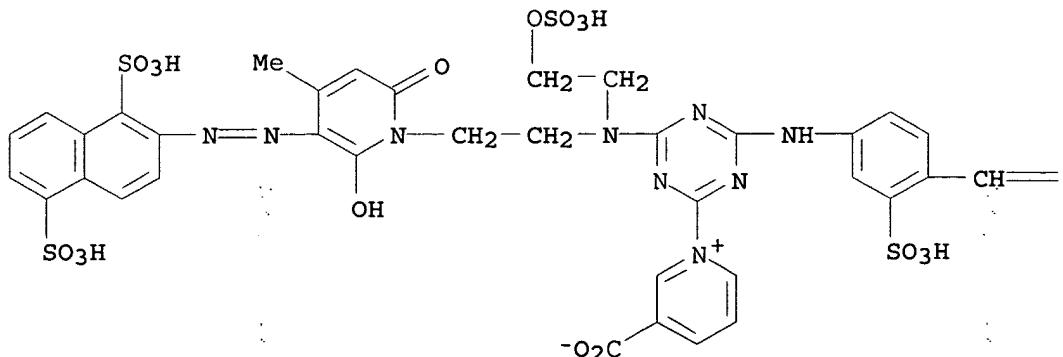
PAGE 1-B



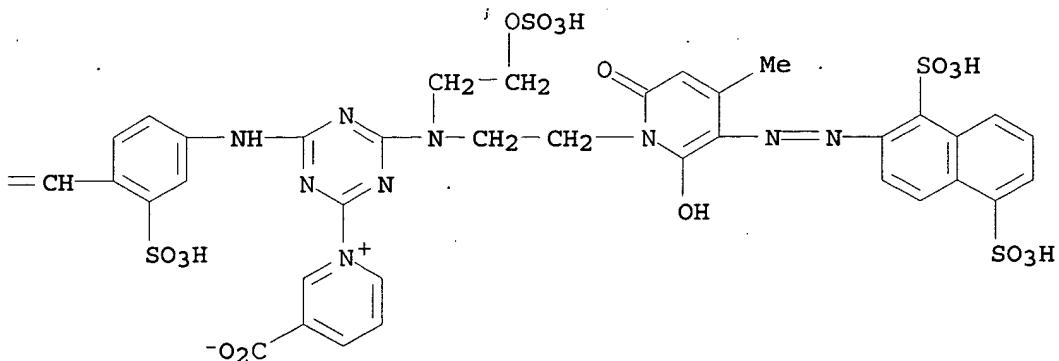
RN 141281-49-4 HCPLUS

CN Pyridinium, 1,1'-[1,2-ethenediylyl]bis[(3-sulfo-4,1-phenylene)imino[6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl][2-(sulfooxy)ethyl]amino]-1,3,5-triazine-4,2-diyl]]]bis[3-carboxy-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A



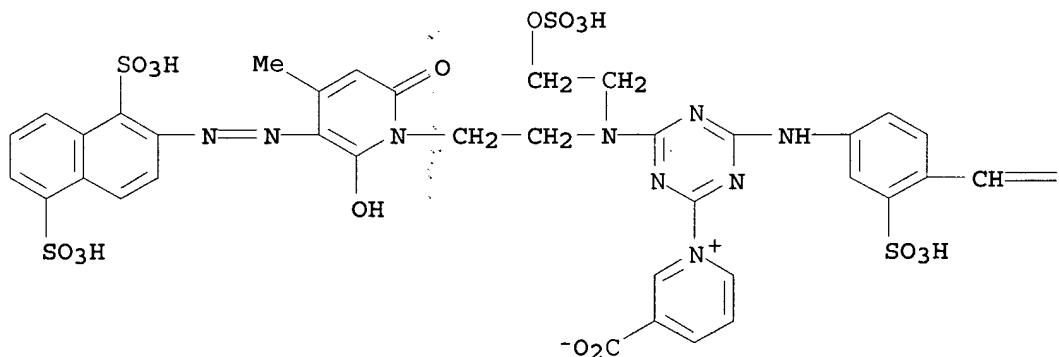
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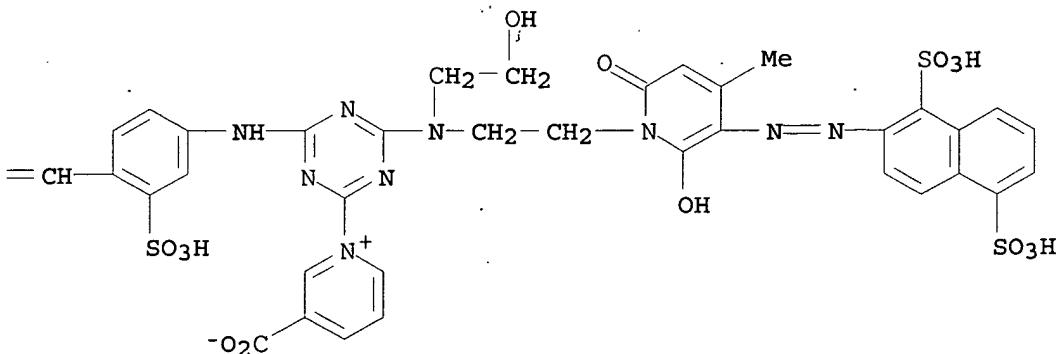
RN 141281-50-7 HCPLUS

CN Pyridinium, 3-carboxy-1-[4-[[4-[[4-(3-carboxypyridinio)-6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azo]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl](2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]-3-sulfophenyl]amino]-6-[[2-[5-[(1,5-disulfo-2-naphthalenyl)azol]-6-hydroxy-4-methyl-2-oxo-1(2H)-pyridinyl]ethyl][2-(sulfooxy)ethyl]amino]-1,3,5-triazin-2-yl]-, bis(inner salt) (9CI)
(CA INDEX NAME)

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PAGE 1-B



IC ICM C09B062-006
 ICS C09B062-08; C09B062-447; C09B062-62; D06P001-382; C09B067-22
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and
 Photographic Sensitizers)
 Section cross-reference(s): 45
 IT 141281-48-3 141281-49-4 141281-50-7
 RL: USES (Uses)
 (prep. of mixts. contg., as yellow dyes for cellulosic
 fibers)
 IT 141301-61-3 141301-62-4 141301-63-5
 RL: USES (Uses)
 (prep. of mixts. contg., as yellow dyes for cellulosic
 fibers and leather)

L46 ANSWER 8 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1991:249766 HCPLUS
 DOCUMENT NUMBER: 114:249766
 TITLE: Liquid detergent compositions
 containing fluorescent
 brighteners
 INVENTOR(S): Schuessler, Ulrich; Seng, Florian
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Ger. Offen., 5 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
DE 3922494	A1	19910117	DE 1989-3922494	198907 08
EP 413926	A1	19910227	EP 1990-111940	199006 23
R: CH, DE, FR, GB, IT, LI JP 03045699	A2	19910227	JP 1990-172830	199007

CA 2020666

AA 19910109

CA 1990-2020666

02

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199007

06

DE 1989-3922494

A

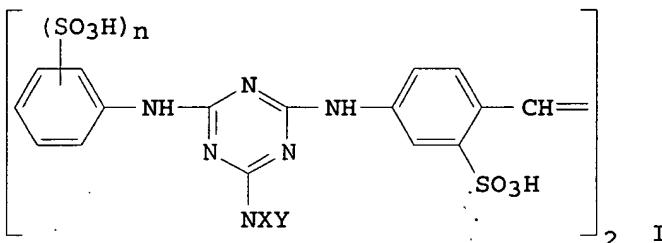
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198907

08

PRIORITY APPLN. INFO.:

OTHER SOURCE(S):
GI

MARPAT 114:249766



AB The title compns. contain nonionic and cationic surfactants and stilbene brighteners I (X = H, C1-4 alkyl, CH₂CH₂Z, Y; Y = ANVW; XY = CH₂CH₂NRCH₂CH₂CH₂; A = C2-6 alkylene, R1OR1; R1 = C2-6 alkylene; V, W = C1-4 alkyl optionally contg. OH or NR2; VW = CH₂CH₂TCH₂CH₂; T = O, S, NR, CH₂; Z = OH, CN, CO₂R, CONH₂, CONR2; R = C1-4 alkyl; n = 0-2) contg. cationic groups and impart good brightness and a soft feel to fabrics during laundering. A compn. prep'd. by adding ethoxylated (10 mol) C12-14 fatty acid 18, dimethyldi(tallow alkyl)ammonium chloride 5, and H₂O apprx. 71.5 parts to a dispersion of 0.1 parts I (X = H; Y = CH₂CH₂NET₂; n = 0) in 5.5 part EtOH was used for the laundering of soiled cotton fabrics, giving good cleaning and brightening.

IT 134198-37-1 134198-38-2 134198-39-3

134216-04-9 135247-38-0

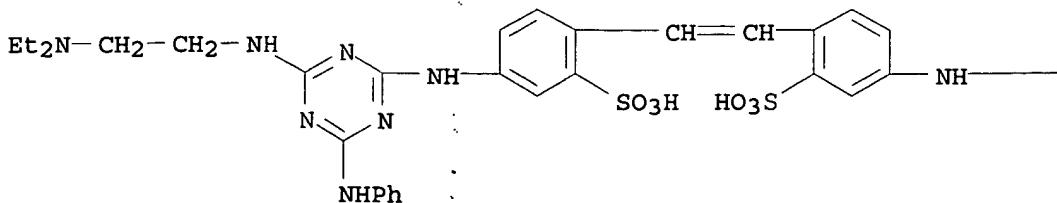
RL: USES (Uses)

(fluorescent brighteners, liq. detergent compns. contg.)

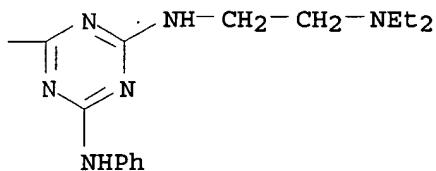
RN 134198-37-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(diethylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



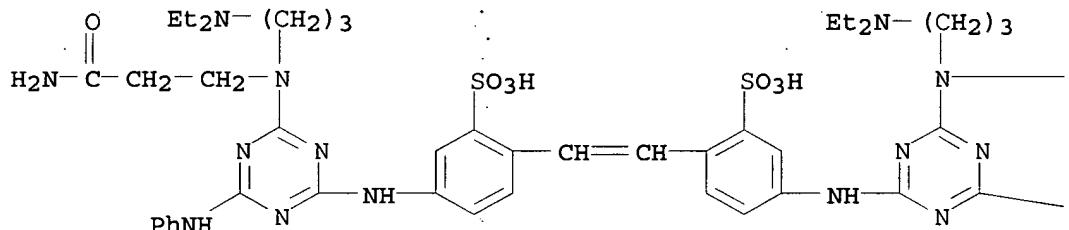
PAGE 1-B



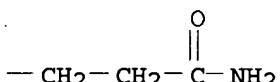
RN 134198-38-2 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



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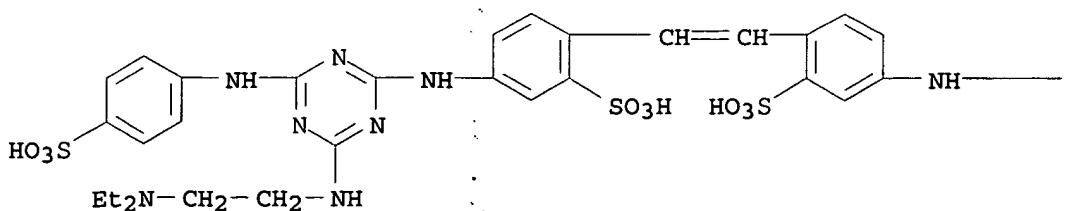


—NHPh

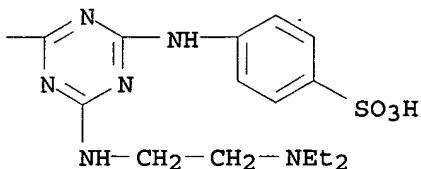
RN 134198-39-3 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(2-(diethylamino)ethyl)amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



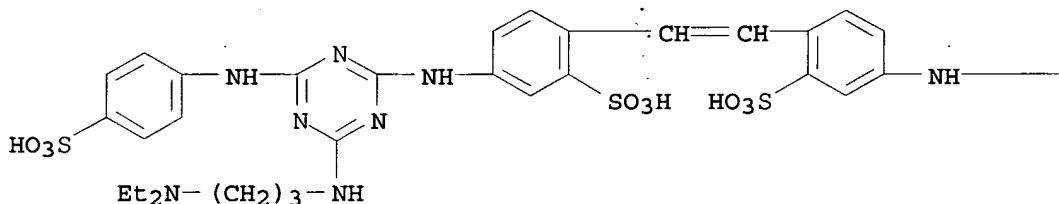
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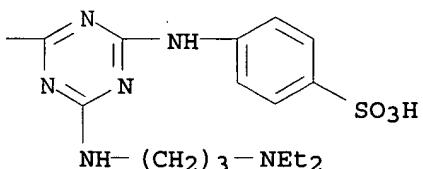
RN 134216-04-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(3-diethylamino)propyl]amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



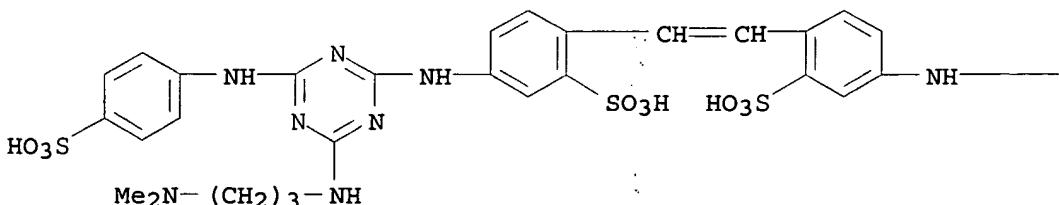
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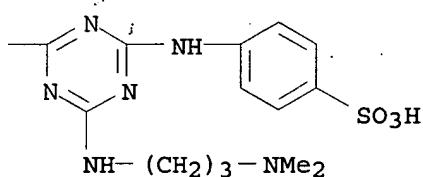
RN 135247-38-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(dimethylamino)propyl]amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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PAGE 1-B



- IC ICM C11D003-42
ICS C11D009-44; C11D017-08; C07D251-68
CC 46-5 (Surface Active Agents and Detergents)
ST stilbene fluorescent brightener liq detergent;
fluorescent brightener laundry detergent liq;
ammonium detergent liq fluorescent brightener;
nonionic detergent liq fluorescent brightener;
cationic fluorescent brightener detergent liq
IT Fatty acids, compounds
RL: USES (Uses)
(C12-14, ethoxylated, liq. laundry detergents contg.
fluorescent brighteners and)
IT Fluorescent brighteners
(cationic, stilbene-based, liq. detergent compns.
contg. cationic and nonionic surfactants and)
IT Quaternary ammonium compounds, uses and miscellaneous
RL: USES (Uses)
(dimethylditallow alkyl, chlorides, liq. laundry detergents
contg. fluorescent brighteners and)
IT Detergents
(laundry, liq., contg. cationic fluorescent
brighteners)
IT 134198-37-1 134198-38-2 134198-39-3
134216-04-9 135247-38-0
RL: USES (Uses)
(fluorescent brighteners, liq. detergent
compns. contg.)

L46 ANSWER 9 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:45544 HCPLUS

DOCUMENT NUMBER: 114:45544

TITLE: Storage-stable liquid compositions
containing fluorescent
brighteners for laundering

INVENTOR(S): Chavannes, Jean Pierre; Forrer, Rolf Heinz

PATENT ASSIGNEE(S): Sandoz-Patent-G.m.b.H., Germany

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 3844341	A1	19900705	DE 1988-3844341	198812 30

EP 376893

A2

19900704

EP 1989-810985

198912
27

EP 376893

A3

19910807

R: BE, CH, DE, FR, GB, IT, LI, NL

JP 02227497

A2

19900910

JP 1989-336815

198912
27

PRIORITY APPLN. INFO.:

DE 1988-3844341

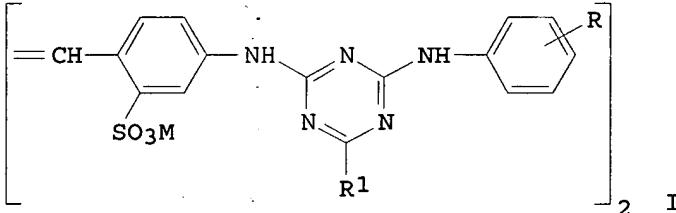
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198812
30

OTHER SOURCE(S):

MARPAT 114:45544

GI



AB The title compns., e.g., detergents or fabric-softening compns., contain brighteners I (R = H, halo, alkyl, SO₃M, etc.; R₁ = MeO, EtO, NR₂R₃; R₂ = C₂-3 hydroxyalkyl; R₃ = H, ZX; Z = C₂-3 alkylene; X = halo, cyano, CONH₂, C₁-2 alkoxy, OH; M = alkali metal, NH₄, alkylammonium, hydroxyalkylammonium) which resist pptn. during storage and have good affinity for fibers during laundering. A fabric-softening compn. for use in the rinse cycle contained I [R = H; R₁ = N(CH₂CH₂OH)C₂H₄CONH₂; M = Na] 0.1, fabric softener 6.5, propylene glycol 5, iso-PrOH 2, and H₂O 86.4%.

IT 37515-76-7

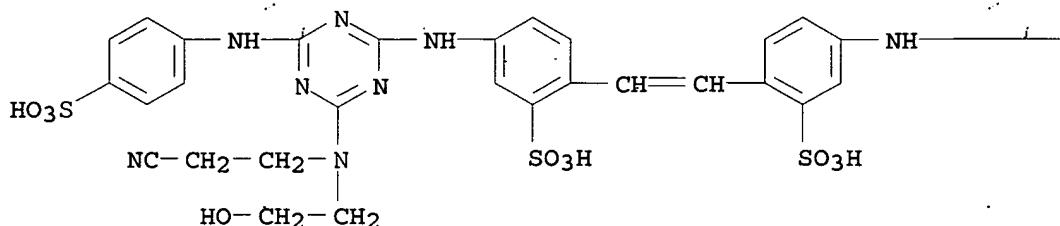
RL: USES (Uses)

(fluorescent brighteners, liq. detergents and fabric softeners contg., storage-stable)

RN 37515-76-7 HCAPLUS

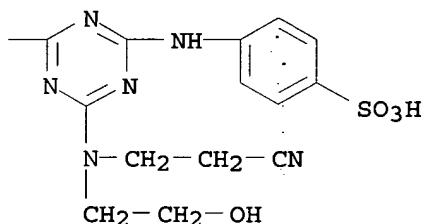
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-cyanoethyl)(2-hydroxyethyl)amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B



IC ICM C11D003-42
 ICS C11D017-00; D06L003-12
 ICI C11D003-42, C11D001-02, C11D001-66, C11D003-04, C11D003-37,
 C11D003-26, C11D003-20
 CC 46-5 (Surface Active Agents and Detergents)
 Section cross-reference(s): 41
 ST fluorescent brightener liq compn heat
 stability; laundry detergent liq fluorescent
 brightener; softener fabric liq fluorescent
 brightener; stilbene fluorescent
 brightener liq compn; triazine fluorescent
 brightener liq compn
 IT Softening agents
 (for fabric, liq. compns. contg. fluorescent
 brighteners and, storage-stable)
 IT Fluorescent brighteners
 (liq. detergents and fabric softeners contg., storage-stable)
 IT Detergents
 (laundry, liq., fluorescent brightener
 -contg., storage-stable)
 IT 16324-27-9 27344-06-5 32694-95-4 37515-76-7
 61136-17-2 131588-07-3
 RL: USES (Uses)
 (fluorescent brighteners, liq. detergents and
 fabric softeners contg., storage-stable)

L46 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1981:67268 HCAPLUS
 DOCUMENT NUMBER: 94:67268
 TITLE: Studies on the synthesis and evaluation of

AUTHOR(S) : optical brighteners, derivatives of sym-triazinylodiaminostilbene and 2,5-disulfoaniline
 Bankowski, Leszek; Higersberger, Ewa;
 Rzeszowski, Jerzy

CORPORATE SOURCE: Inst. Przem. Org., Warsaw, Pol.

SOURCE: Przemysl Chemiczny (1980), 59(9), 489-91

DOCUMENT TYPE: CODEN: PRCHAB; ISSN: 0033-2496
 Journal

LANGUAGE: Polish

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Twenty fluorescent whiteners of structure I and constituting a mixt. of structures I, II, and III (R = amine residue) were prep'd. and evaluated on cellulosic fibers. Some of the whiteners were suitable for brightening paper. They were prep'd. by reacting cyanuric chloride [108-77-0] with aniline-2,5-disulfonic acid [98-44-2] and treating the reaction product first with disodium 4,4'-diaminostilbene-2,2'-disulfonate (IV) [7336-20-1] and then with a primary or secondary amine. The whiteners constituting a mixt. of structures I-III were synthesized by prepg. 2,4-dichloro-6-methoxy-1,3,5-triazine [3638-04-8] (from cyanuric chloride and MeOH) and 2,4-dichloro-6-(2,5-disulfoanilino)-1,3,5-triazine [17752-51-1] (as described above), and condensation of their mixt. with IV and primary or secondary amines.

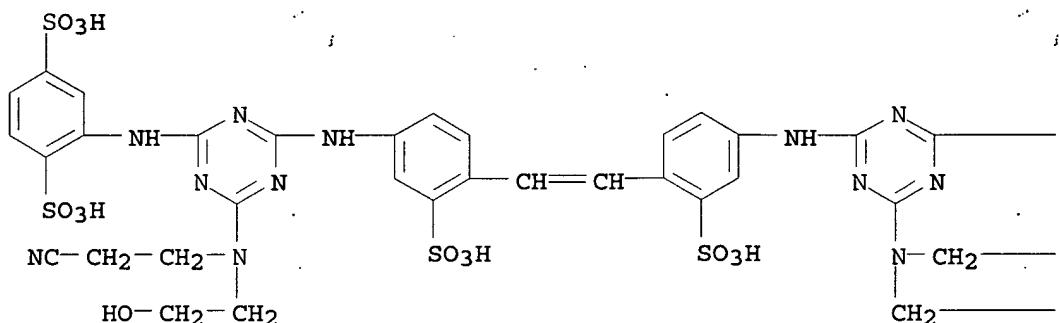
IT 73324-12-6P 76508-02-6P 76508-03-7P
 76508-04-8P 76508-05-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as fluorescent brighteners for
 cellulosic fibers)

RN 73324-12-6 HCPLUS

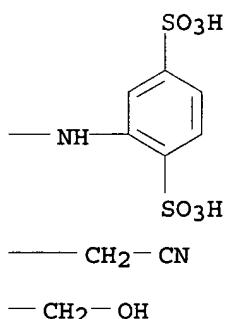
CN 1,4-Benzene dicarboxylic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]-6-[(2-cyanoethyl)(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino)]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

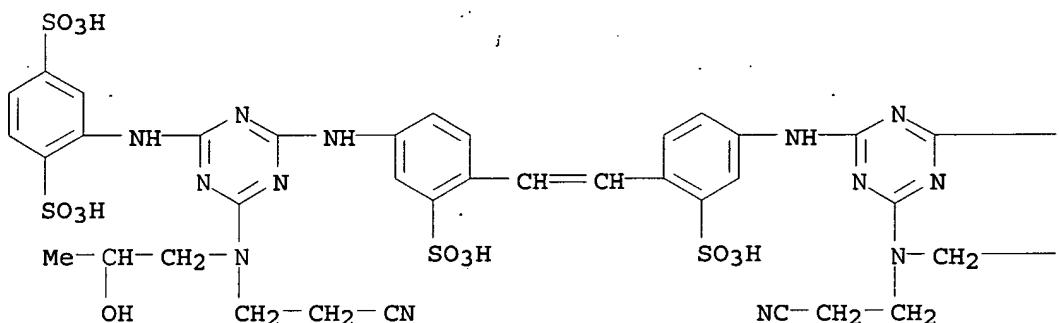
PAGE 1-B



RN 76508-02-6 HCPLUS

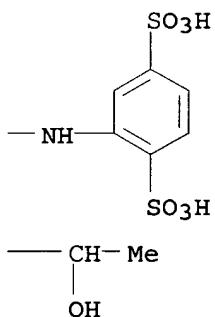
CN 1,4-Benzene-disulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]hexa-sodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

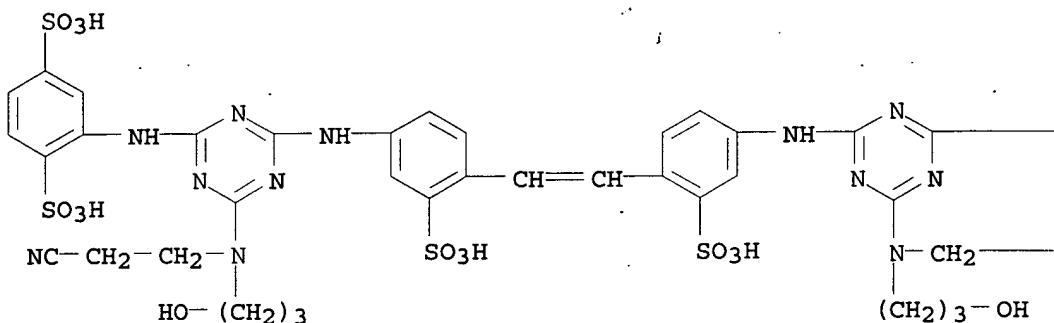
PAGE 1-B



RN 76508-03-7 HCAPLUS

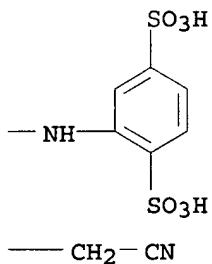
CN 1,4-Benzene-disulfonic acid, 2,2'-(1,2-ethenediylbisis[(3-sulfo-4,1-phenylene)imino][6-[(2-cyanoethyl)(3-hydroxypropyl)imino]-1,3,5-triazine-4,2-diyl]imino])bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

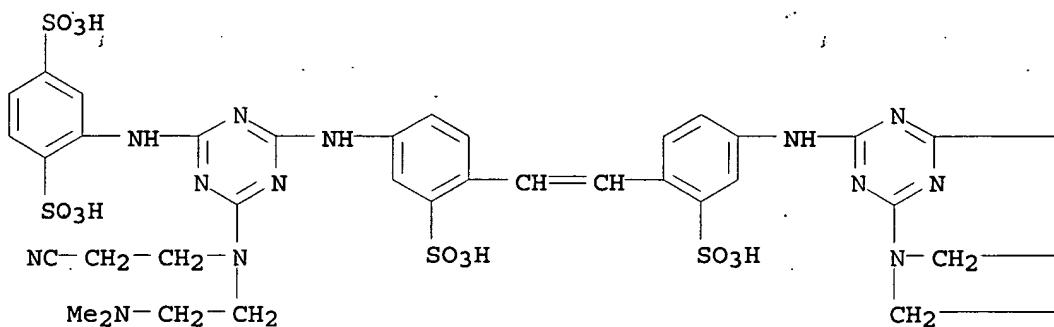
PAGE 1-B



RN 76508-04-8 HCPLUS

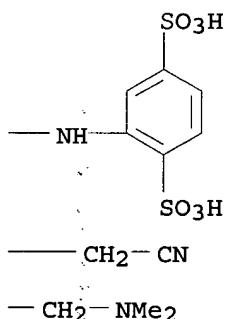
CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediylyl bis[(3-sulfo-4,1-phenylene)imino] [6-[(2-cyanoethyl)[2-(dimethylamino)ethyl]amino]-1,3,5-triazine-4,2-diyl imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

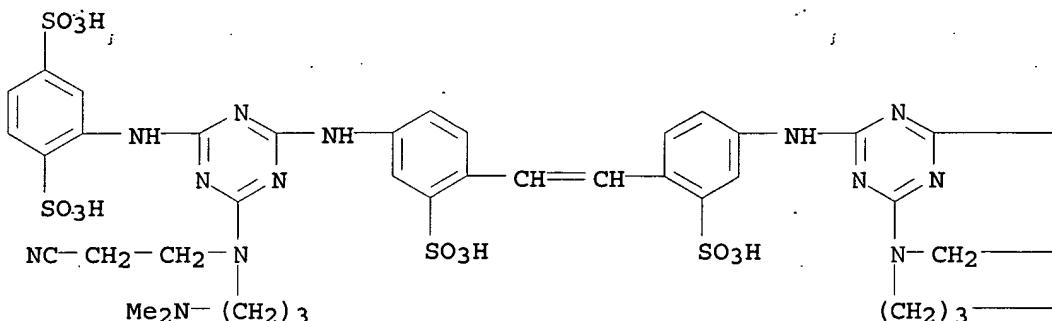
PAGE 1-B



RN 76508-05-9 HCAPLUS

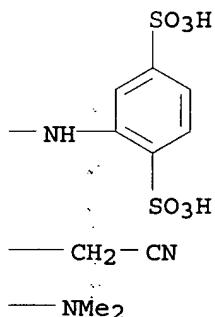
CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)[3-(dimethylamino)propyl]imino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

PAGE 1-B



CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST fluorescent whitener paper; sulfoaniline deriv
 fluorescent whitener; triazinylstilbene deriv
 fluorescent brightener; stilbene triazinylamino
 fluorescent brightener; cellulosic textile
 fluorescent whitener
 IT Fluorescent brighteners
 (bis(triazinylodiamino)stilbene disulfoaniline derivs., prepns.
 and evaluation of, on cellulosic fibers)
 IT Paper
 (fluorescent brighteners for,
 bis(triazinylodiamino)stilbene disulfoaniline derivs. as)
 IT 5108-90-7 73301-96-9 73301-98-1 73309-77-0 73309-79-2
 76508-06-0 76508-07-1 76508-08-2 76508-09-3 76508-10-6
 76508-12-8 76508-13-9 76508-14-0
 RL: USES (Uses)
 (fluorescent brighteners contg., prepns. and
 evaluation of, on cellulosic fibers)
 IT 3969-41-3P 4470-72-8P 16395-73-6P 25778-91-0P 31773-47-4P
 41098-56-0P 52819-66-6P 52871-53-1P 68971-49-3P
 73324-12-6P 76508-00-4P 76508-01-5P 76508-02-6P
 76508-03-7P 76508-04-8P 76508-05-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as fluorescent brighteners for
cellulosic fibers)

L46 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:606520 HCAPLUS

DOCUMENT NUMBER: 93:206520

TITLE: Colorless fluorescent
whiteners from
bis(triazinylamino)stilbenedisulfonic acid
compounds

INVENTOR(S): Uhl, Klaus; Frischkorn, Hans; Martini, Thomas

PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 13 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

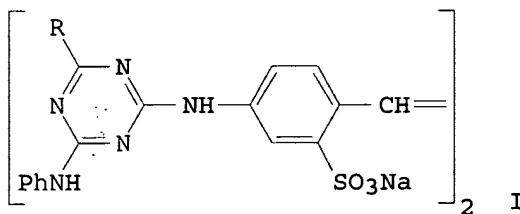
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2902975	A1	19800807	DE 1979-2902975	197901 26
EP 13981	A1	19800806	EP 1980-100346	198001 23
R: CH, DE, FR, GB, IT US 4271036	A	19810602	US 1980-114665	198001 23
JP 55099963	A2	19800730	JP 1980-7003	198001 25
PRIORITY APPLN. INFO.:		DE 1979-2902975	A	197901 26

GI



AB The green or yellow-green modifications of I (R = NMeCH₂CH₂OH) (II)
[13863-31-5], I (R = morpholino) [16090-02-1], and 4 similar

fluorescent whiteners are heated with an alkoxylate to prep. white compns. which are added to detergent slurries and spray dried to prep. powd. detergents with a desirable white color. Thus, 231 g ethoxylated (25 mol) tallow alcs. and 19 g II were heated at 80-90° for 90 min and allowed to stand until white II crystals formed. The suspension was cooled and milled with CO₂(s) to prep. a white powder suitable for addn. to detergent slurries.

IT 75544-51-3

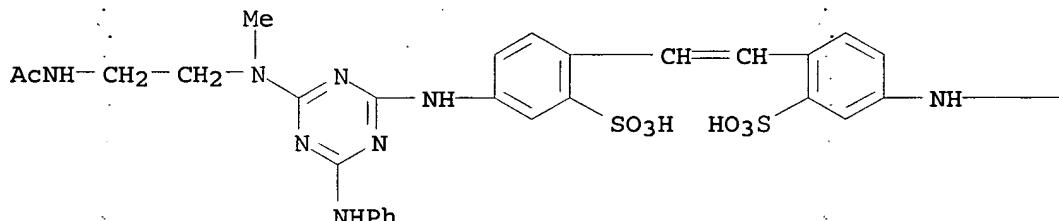
RL: USES (Uses)

(fluorescent brighteners, decolorization of, by heating with alkoxylates)

RN 75544-51-3 HCPLUS

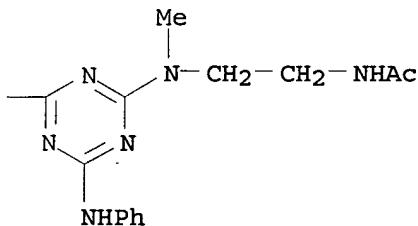
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(acetylamino)ethyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IC D06L003-12

CC 46-5 (Surface Active Agents and Detergents)

Section cross-reference(s): 40

ST triazinylaminostilbenesulfonate whitener decolorization; fluorescent whitener stilbene decolorization; alkoxylate decolorization fluorescent whitener; nonionic surfactant decolorization

IT Decolorization

(of fluorescent brighteners by heating with alkoxylates)

IT Fluorescent brighteners

(triazinylaminostilbenesulfonate derivs., decolorization of, by

heating with alkoxylates)

- IT Detergents
 (nonionic, decolorization of fluorescent
 brighteners by heating with)
- IT 75-21-8D, reaction products with ethylenediamine and propylene oxide
 75-56-9D, reaction products with ethylenediamine and ethylene oxide
 107-15-3D, alkoxylated 9003-11-6 9004-98-2 9005-00-9
 9016-45-9 9043-30-5 25322-68-3 25322-68-3D, monoalkyl ethers
 26636-37-3 58205-99-5
- RL: USES (Uses)
 (decolorization of fluorescent brighteners by
 heating with)
- IT 13863-31-5 16090-02-1 28950-65-4 52435-15-1 75544-51-3
 75544-52-4
- RL: USES (Uses)
 (fluorescent brighteners, decolorization of,
 by heating with alkoxylates)

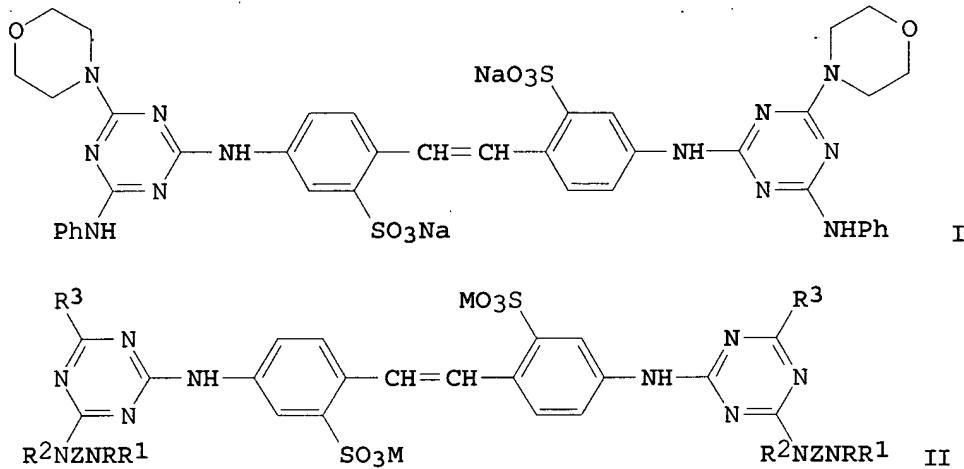
L46 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:515942 HCAPLUS
 DOCUMENT NUMBER: 93:115942
 TITLE: Color-stable fluorescent
 whitener for washing composition
 INVENTOR(S): Martini, Thomas; Mengler, Helmut; Hohlfeld,
 Guenther; Hohlfeld, Guenther
 PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2850382	A1	19800604	DE 1978-2850382	197811 21
US 4263176	A	19810421	US 1979-94830	197911 16
JP 55073794	A2	19800603	JP 1979-149618	197911 20
GB 2036821	A	19800702	GB 1979-40054	197911 20
FR 2442267	A1	19800620	FR 1979-28701	197911 21
FR 2442267	B1	19811016	DE 1978-2850382	A 197811 21
PRIORITY APPLN. INFO.:				

GI

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AB The tendency of **fluorescent whitener I** [16090-02-1] to turn greenish during contact with secondary alkanesulfonates, esp. in detergent **compns.** during storage in moist air at elevated temp., is inhibited by mixing I with **whiteners** of general structure II, where M = alkali metal, R = C₂-9 alkanoyl, C₁-5 alkylsulfonyl, C₄-8 cycloalkylsulfonyl, PhSO₂, or MeC₆H₄SO₂, R₁ = H or C₁-5 alkyl, Z = C₃-6 alkylene, R₂ = H, C₁-5 alkyl, C₄-8 cycloalkyl, or ZNRR₁, and R₃ = PhNH, ClC₆H₄NH, or morpholino. Further improvement is obtained by treating I with poly(vinyl alc.) [9002-89-5] prior to mixing with II. Thus, a mixt. of 0.07 g I (70%, standardized with NaCl) and 0.42 g II(R = Ac, R₁ = H, Z = CH₂CH₂CH₂, R₂ = Me, R₃ = PhNH) (III) [56125-26-9] (50%, standardized with NaCl) was stirred with 20 g aq. slurry contg. 60% C₁₃-18 alkanesulfonate. No greening of the compn. was obsd. after several wk, whereas in the absence of III a green color formed in 2-3 days.

IT 56125-21-4 56125-26-9 74723-97-0
74723-98-1 74723-99-2 74724-00-8
74724-01-9 74724-02-0

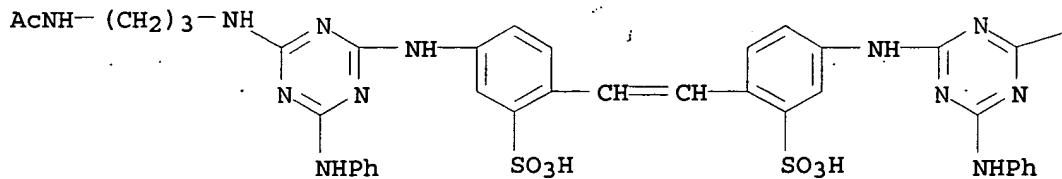
RL: USES (Uses)

(fluorescent brightener mixt.
contg., for prevention of greening during contact with
alkanesulfonate)

RN 56125-21-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

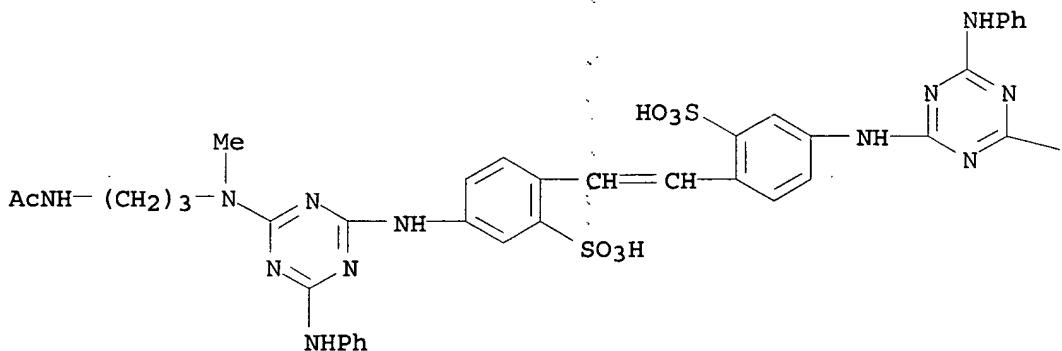
PAGE 1-B

—NH—(CH₂)₃—NHAC

RN 56125-26-9 HCAPLUS

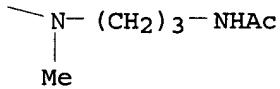
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

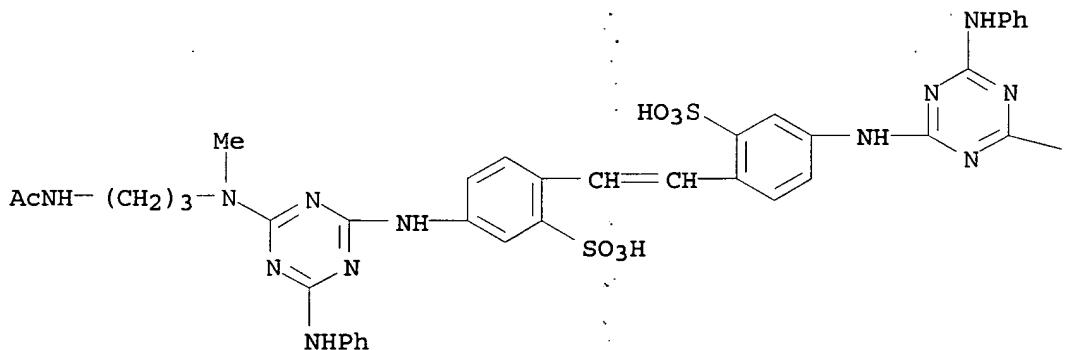
PAGE 1-B



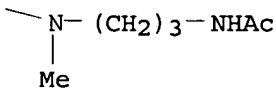
RN 74723-97-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



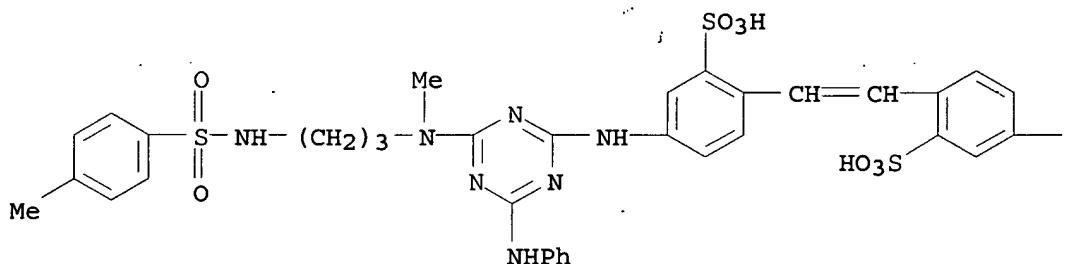
PAGE 1-B



RN 74723-98-1 HCPLUS

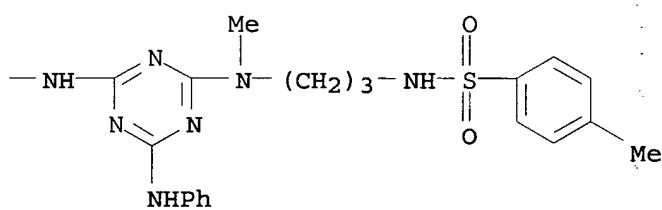
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[methyl[3-[(4-methylphenyl)sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



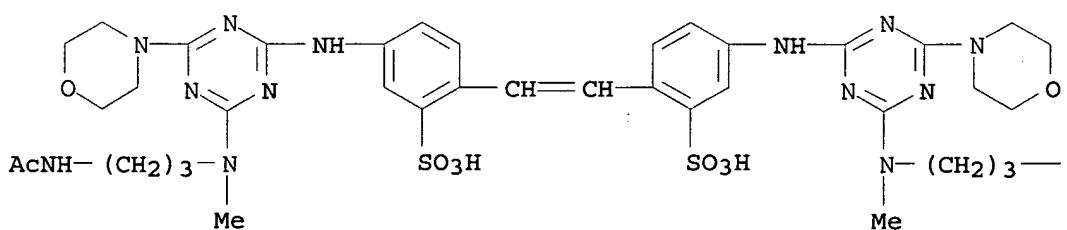
●2 Na

PAGE 1-B



RN 74723-99-2 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



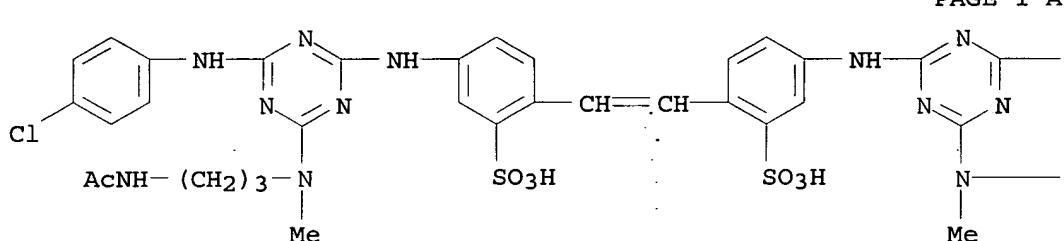
●2 Na

PAGE 1-B

— NHAc

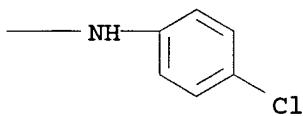
RN 74724-00-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-[(4-chlorophenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

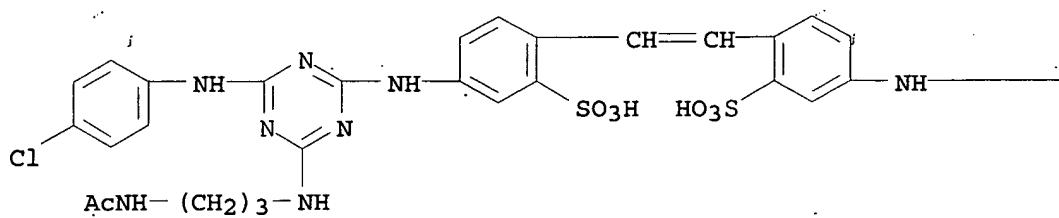
PAGE 1-B

— (CH₂)₃—NHAc

RN 74724-01-9 HCPLUS

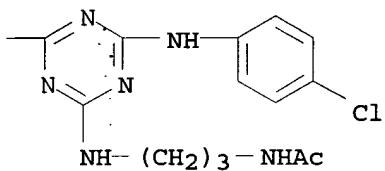
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[(4-chlorophenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

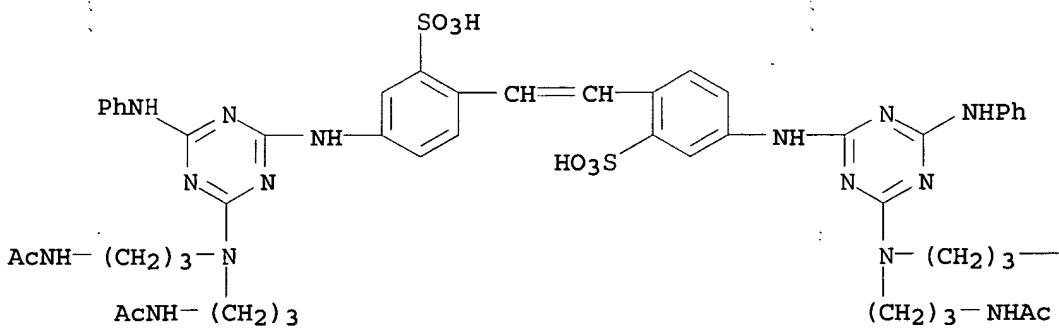
PAGE 1-B



RN 74724-02-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[4-[bis[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— NHAc

IC D06L003-12
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 Section cross-reference(s): 46
 ST greening inhibitor fluorescent whitener;
 stilbene fluorescent whitener greening;
 discoloration prevention fluorescent whitener;
 alkanesulfonate greening fluorescent whitener;
 detergent greening fluorescent whitener
 IT Detergents
 (alkanesulfonates, stilbene fluorescent
 brightener greening by, prevention of)
 IT Fluorescent brighteners
 (bis[(anilinomorpholinotriazinyl)amino]stilbenedisulfonate,
 greening of, in contact with alkanesulfonate, prevention of)
 IT 56125-21-4 56125-26-9 74723-97-0
 74723-98-1 74723-99-2 74724-00-8
 74724-01-9 74724-02-0
 RL: USES (Uses)
 (fluorescent brightener mixt.
 contg., for prevention of greening during contact with
 alkanesulfonate)
 IT 9002-89-5 9003-20-7D, hydrolyzed
 RL: USES (Uses)
 (stilbene fluorescent brightener treatment
 with, for prevention of greening during contact with
 alkanesulfonate)

L46 ANSWER 13 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1980:148526 HCPLUS
 DOCUMENT NUMBER: 92:148526
 TITLE: The sym-triazine derivative fluorescent
 brighteners
 INVENTOR(S): Rzeszowski, Jerzy; Balterowicz, marian;
 Bankowski, Leszek; Higersberger, Ewa; Szteke,
 Barbara; Graczyk, Bernard; Bielski, Mieczyslaw;
 Synak, Jerzy
 PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.
 SOURCE: Pol., 4 pp.
 CODEN: POXXA7
 DOCUMENT TYPE: Patent
 LANGUAGE: Polish
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PL 103437

P 19790630

PL 1976-193660

197611
11

PL 1976-193660

A

197611
11

PRIORITY APPLN. INFO.:

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The I-III-III mixts., where R is NHCH₂CH₂OH, N(CH₂CH₂CN)CH₂CH₂OH, NH₂, NHET, morpholino, or NHPH, were found to be better brighteners for textiles or paper than I or II. Also the prepn. of mixts. was technol. simpler than the prepn. of pure I, II or III. Thus 4,6-dichloro-2-methoxy-s-triazine [3638-04-8]-4,6-dichloro-2-(2,5-disulfophenylamino)-s-triazine [17752-51-1] mixt., prepd. in situ, was reacted at pH 5-8 with di-Na 4,4'-diaminostilbene-2,2'-disulfonate [7336-20-1]. The resulting mixt. of monochlorides was reacted with monoethanolamine [141-43-5] to give I-III-III mixt. with R = NHCH₂CH₂OH which could be used to brighten cellulosic fibers in acidic solns.

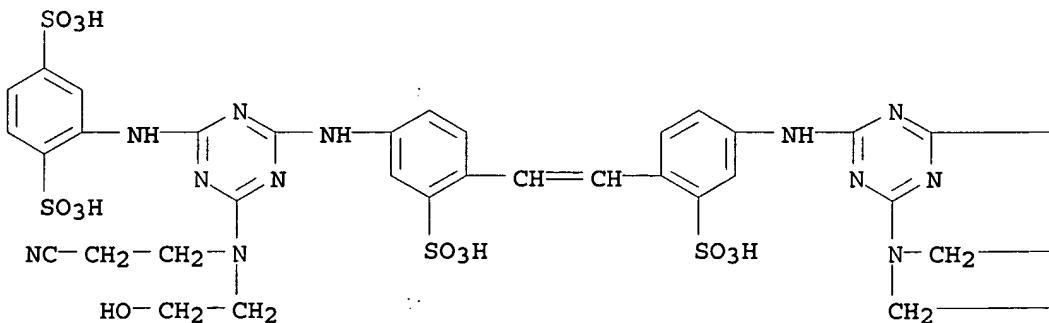
IT 73324-12-6

RL: USES (Uses)
(fluorescent brighteners, for paper or textiles)

RN 73324-12-6 HCPLUS

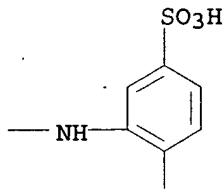
CN 1,4-Benzenedicarboxylic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

PAGE 1-B

— CH₂ — CN— CH₂ — OH

IC D06L003-12

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

Section cross-reference(s): 43

ST fluorescent brightener triazine mixt;
textile brightener triazine deriv; paper
brightener triazine deriv; triazinylaminostilbenesulfonate
mixt fluorescent brightenerIT Paper
(fluorescent brighteners for, mixts
of bis(triazinylamino)stilbenedisulfonate derivs.)IT Fluorescent brighteners
(mixts. of bis(triazinylamino)stilbenedisulfonate
derivs., for paper and textiles)IT 3426-43-5 3969-41-3 5108-90-7 16395-73-6 25778-91-0
26858-67-3 27074-79-9 31773-47-4 52301-70-9 52871-53-1
73301-96-9 73301-97-0 73301-98-1 73309-76-9 73309-77-0
73309-78-1 73309-79-2 73324-12-6RL: USES (Uses)
(fluorescent brighteners, for paper or
textiles)IT 62-53-3, reactions 75-04-7, reactions 110-91-8, reactions
141-43-5, reactions 7664-41-7, reactions 33759-44-3RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with mixt. of disodium
bis(chlorotriazinylamino)stilbenedisulfonate derivs.)

L46 ANSWER 14 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:524889 HCPLUS

DOCUMENT NUMBER: 91:124889

TITLE: Azido group-containing
bistriazinylaminostilbenes

INVENTOR(S): Suzuki, Kazuaki

PATENT ASSIGNEE(S): Showa Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 54024885	A2	19790224	JP 1977-89206	

JP 59045016
PRIORITY APPLN. INFO.:

B4 19841102

JP 1977-89206

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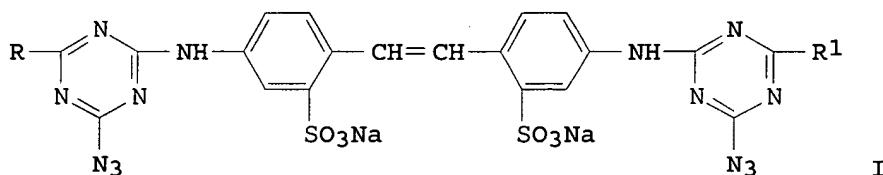
197707
27

<--

197707
27

<--

GI



AB About 40 N3 group-contg. aminostilbenes I (R, R1 = NHCHMe2, NHCH2CHMeOH, N(CH2CH2OH)2, OMe, OPh, etc.) or their mixts ., useful as fluorescent whitening agents when compounded with poly(vinyl alc.) etc., were prep'd. from 4,4'-diaminostilbene-2,2'-disulfonic acid (II) [81-11-8]. Thus, II was dissolved in aq. Na2CO3 and added to cyanuric chloride [108-77-0] in aq. Me2CO at 0-5°. The mixt. was treated first with Et2NH at 30° and then NaN3 at 80-100° to give I (R = R1 = NET2) [71256-55-8]. Thirty-five other sym. I and 4 unsym. I were also prep'd.

IT 71256-31-0P 71256-33-2P 71256-34-3P

71256-35-4P

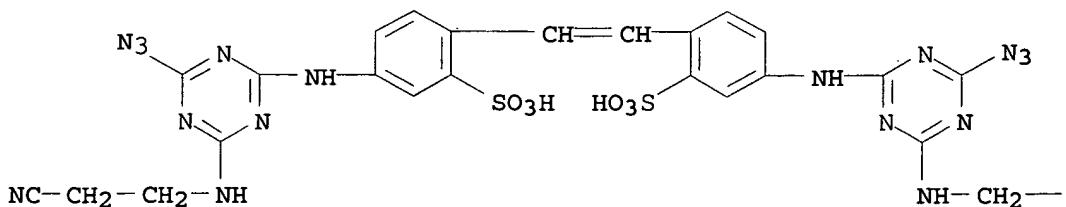
RL: PREP (Preparation)

(manuf. of, for use as fluorescent brightener
)

RN 71256-31-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-azido-6-[(2-cyanoethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

PAGE 1-A



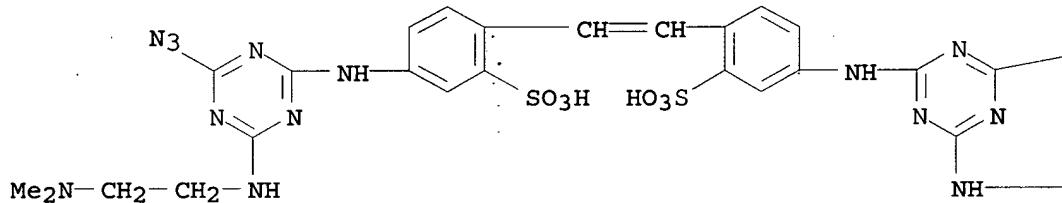
●2 Na

PAGE 1-B

— CH₂— CN

RN 71256-33-2 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-azido-6-[[2-(dimethylamino)ethyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



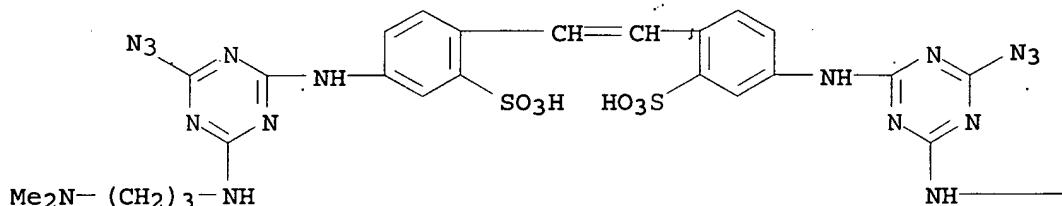
●2 Na

PAGE 1-B

— N₃— CH₂— CH₂— NMe₂

RN 71256-34-3 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-azido-6-[[3-(dimethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

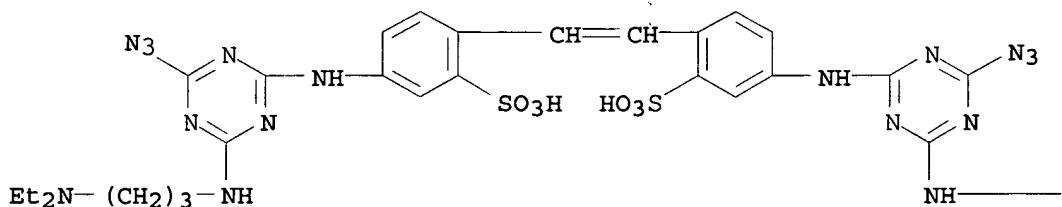
PAGE 1-B

—(CH₂)₃-NMe₂

RN 71256-35-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-azido-6-[(3-diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—(CH₂)₃-NET₂

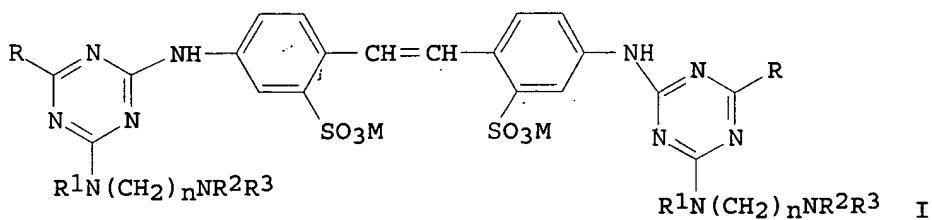
IC C07D251-50; C07D251-52; C07D251-68; C07D413-14
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST azido fluorescent whitener; stilbene azide
 fluorescent whitener; aminostilbene
 fluorescent whitener; triazinylaminostilbene
 fluorescent whitener
 IT Fluorescent brighteners
 (azido group-contg. bis(triazinylamino)stilbenes)
 IT Functional groups
 (azido, bis(triazinylamino)stilbene fluorescent
 brighteners contg.)
 IT Azides
 RL: USES (Uses)
 (heterocyclic, fluorescent brighteners)
 IT 71256-51-4 71256-52-5 71256-53-6 71256-54-7
 RL: USES (Uses)
 (fluorescent brightener mixts.
 contg., manuf. of)
 IT 71247-44-4P 71247-45-5P 71247-46-6P 71247-47-7P 71247-48-8P
 71247-49-9P 71256-23-0P 71256-24-1P 71256-25-2P 71256-26-3P
 71256-27-4P 71256-28-5P 71256-29-6P 71256-30-9P
 71256-31-0P 71256-32-1P 71256-33-2P
 71256-34-3P 71256-35-4P 71256-36-5P
 71256-37-6P 71256-38-7P 71256-39-8P 71256-40-1P 71256-41-2P
 71256-42-3P 71256-43-4P 71256-44-5P 71256-45-6P 71256-46-7P
 71256-47-8P 71256-48-9P 71256-49-0P 71256-50-3P 71256-55-8P
 71280-91-6P
 RL: PREP (Preparation)
 (manuf. of, for use as fluorescent brightener
)

L46 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1979:458707 HCAPLUS
 DOCUMENT NUMBER: 91:58707
 TITLE: Bis(triazinylamino)stilbenedisulfonic acid
 derivatives
 INVENTOR(S): Mengler, Helmut; Schinzel, Erich; Roesch,
 Guenter
 PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
 SOURCE: Patentschrift (Switz.), 12 pp. Division of Swiss
 603,878.
 CODEN: SWXXAS
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 610312	A	19790412	CH 1977-2490	197309 21
CH 7313558	A4	19770831	CH 1973-13558	197309 21
CH 603878	B	19780831		

CH 603606	A	19780831	CH 1977-13451	197309 21
NL 7412250	A	19750325	NL 1974-12250	197409 16
US 3951965	A	19760420	US 1974-506985	197409 18
DD 114842	C	19750820	DD 1974-181207	197409 19
IT 1022132	A	19780320	IT 1974-27491	197409 19
JP 50059420	A2	19750522	JP 1974-107863	197409 20
BR 7407858	A0	19750729	BR 1974-7858	197409 20
CA 1044233	A1	19781212	CA 1974-209718	197409 20
FR 2244765	A1	19750418	FR 1974-31960	197409 23
FR 2244765 GB 1489595	B1 A	19781124 19771019	GB 1974-41388	197409 23
PRIORITY APPLN. INFO.:			CH 1973-13558	A 197309 21
			CH 1977-2490	A 197309 21
			<--	

GI



AB **Fluorescent whiteners (I; R = amino, substituted amino, cyclic amino; R1, R4, R5 = H, optionally substituted (nonchromophoric) C1-20 alkyl, C4-6 cycloalkyl, or Ph; R2 = COR4, SO2R5, CO2R4, CONHR4, C(S)NHR4; R3 = CO2R4, R4; R2R3N = cyclic amino; M = H, colorless cation; n = 2-6) are prep'd. by condensing 4,4'-diaminostilbene-2,2'-disulfonic acid [81-11-8] 1, cyanuric chloride [108-77-0] 2, R1NH(CH₂)_nNR₂R₃ 2, and RH 2 mol. Thus, I (R = PhNH, R1 = R3 = H, R2 = CHO, M = Na, n = 3) [56125-47-4] was prep'd.; λ_{max} 355 m μ , ϵ 6.27 + 104. I were used in detergent formulations to whiten cotton and polyamide textiles.**

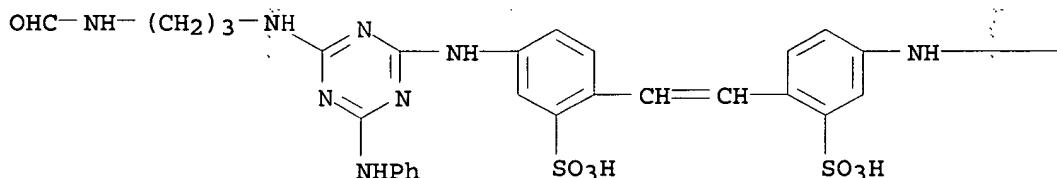
IT **56125-47-4P**

RL: IMF (Industrial manufacture); PREP (Preparation)
(fluorescent brightener, prepn. and spectral properties of)

RN **56125-47-4 HCPLUS**

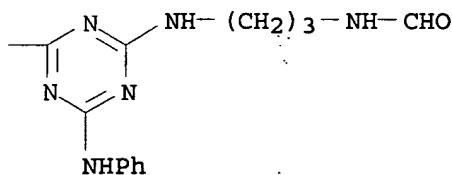
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IT **56125-09-8 56125-10-1 56125-11-2
56125-12-3 56125-15-6 56125-16-7**

56125-17-8 56125-18-9 56125-19-0
 56125-20-3 56125-21-4 56125-22-5
 56125-26-9 56125-27-0 56125-29-2
 56125-30-5 56125-31-6 56125-32-7
 56125-33-8 56125-34-9 56125-35-0
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 56125-39-4 56125-40-7 56125-41-8
 56125-42-9 56125-43-0 56125-44-1
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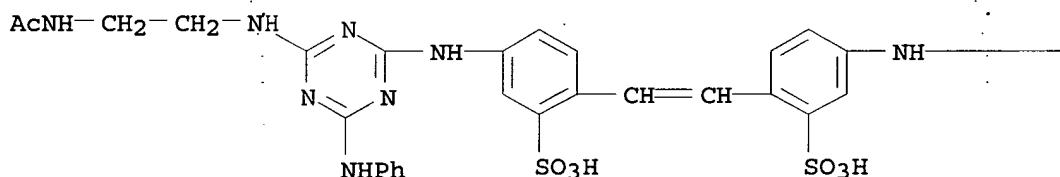
RL: USES (Uses)

(fluorescent brightener, spectral properties
 of)

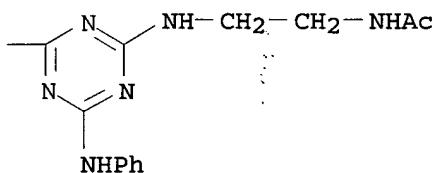
RN 56125-09-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



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RN 56125-10-1 HCPLUS

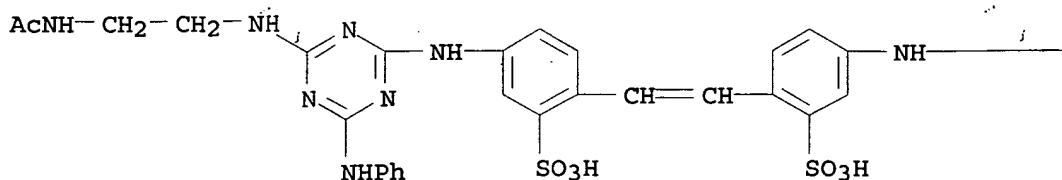
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with 2,2',2''-nitriilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

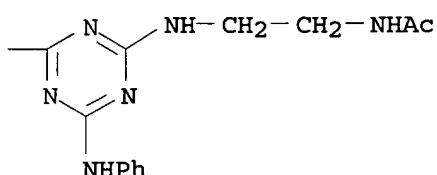
CRN 56125-09-8

CMF C40 H42 N14 O8 S2

PAGE 1-A

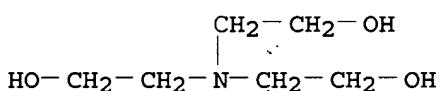


PAGE 1-B



CM 2

CRN 102-71-6
CMF C₆ H₁₅ N O₃

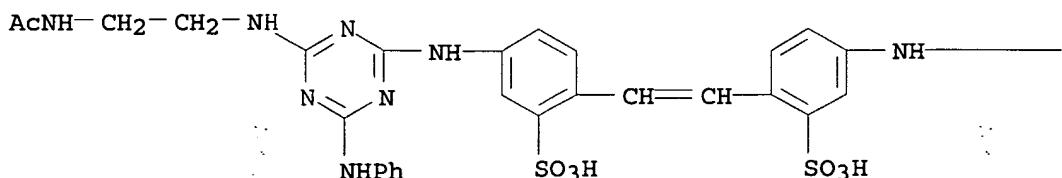


RN 56125-11-2 HCPLUS
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with N,N-diethylethanamine (1:2) (9CI) (CA INDEX NAME)

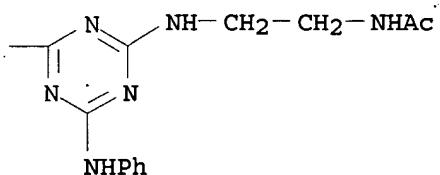
CM 1

CRN 56125-09-8
CMF C₄₀ H₄₂ N₁₄ O₈ S₂

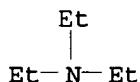
PAGE 1-A



PAGE 1-B

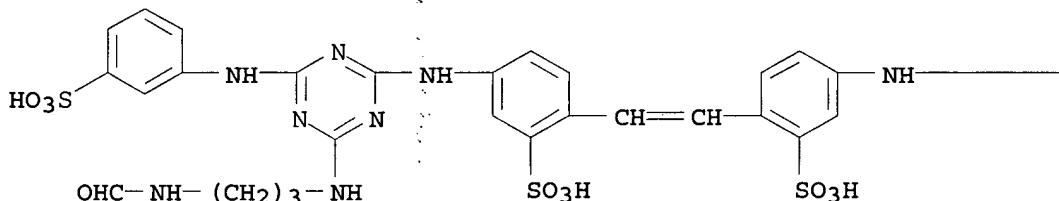


CM 2

CRN 121-44-8
CMF C6 H15 N

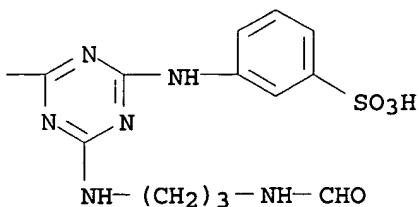
RN 56125-12-3 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-formylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



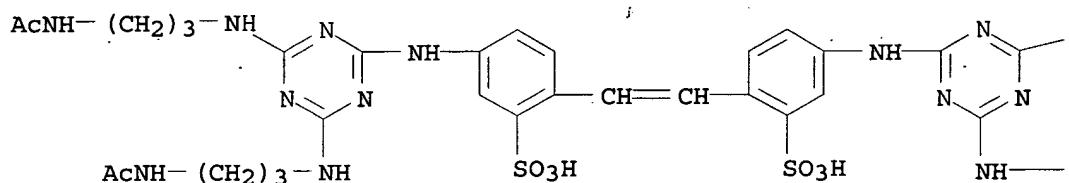
●4 Na

PAGE 1-B



RN 56125-15-6 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4,6-bis[(3-(acetylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

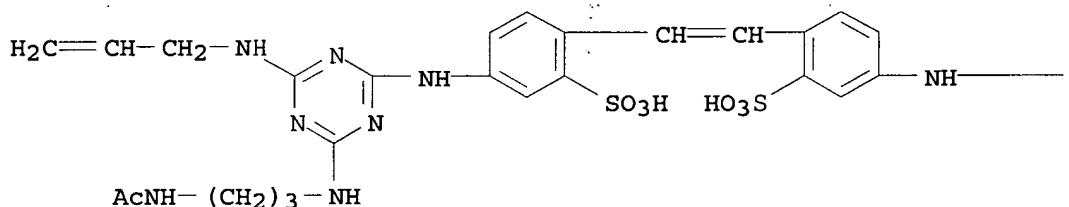
PAGE 1-B

—NH—(CH₂)₃—NHAc—(CH₂)₃—NHAc

RN 56125-16-7 HCPLUS

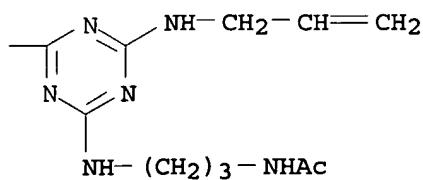
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(2-propenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

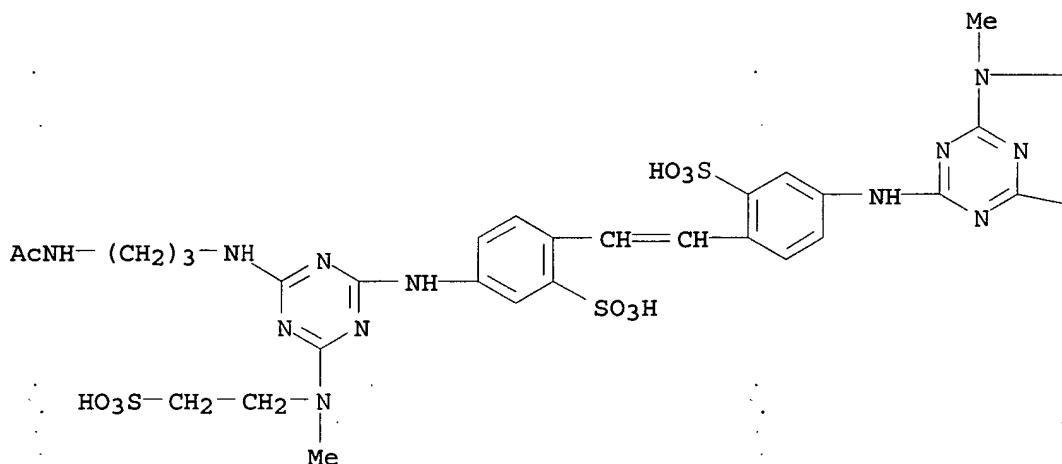
PAGE 1-B



RN 56125-17-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[methyl(2-sulfoethyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

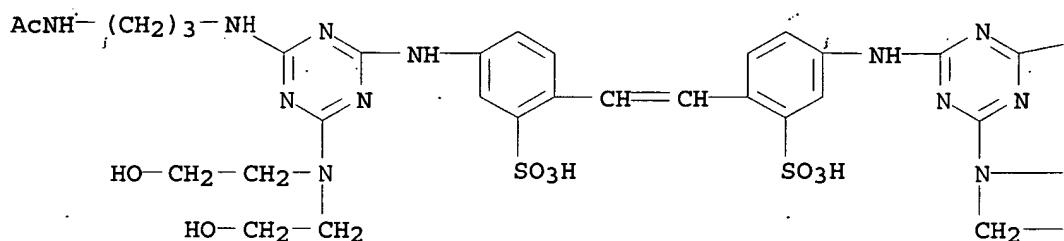
PAGE 1-B

—CH₂—CH₂—SO₃H—NH—(CH₂)₃—NHAc

RN 56125-18-9 HCPLUS

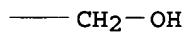
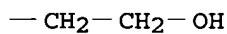
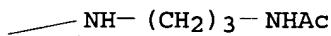
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

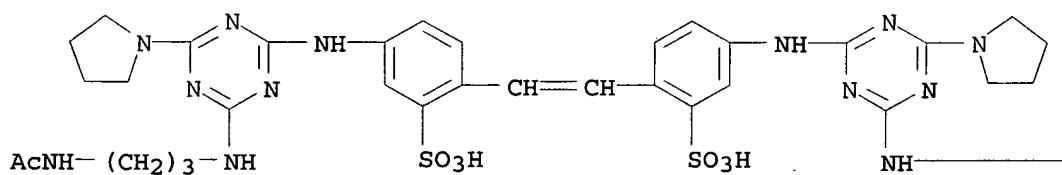
PAGE 1-B



RN 56125-19-0 HCPLUS

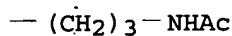
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(1-pyrrolidinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

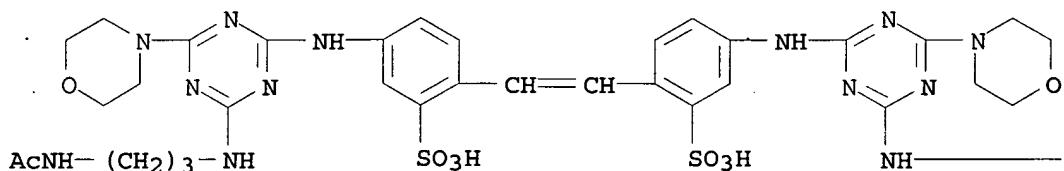
PAGE 1-B



RN 56125-20-3 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

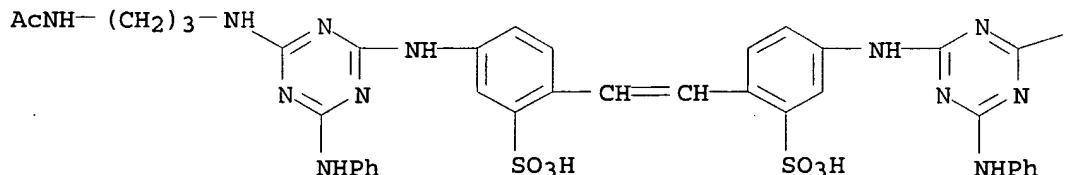
PAGE 1-B

—(CH₂)₃-NHAc

RN 56125-21-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

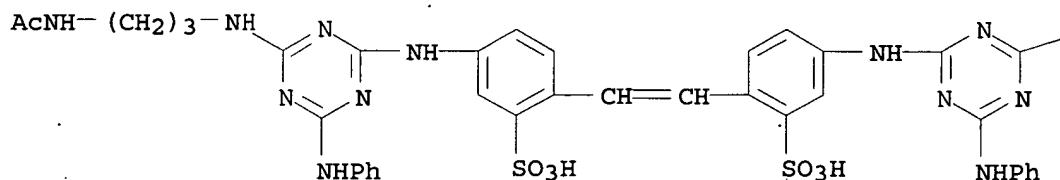
—NH—(CH₂)₃-NHAc

RN 56125-22-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-

(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

PAGE 1-A



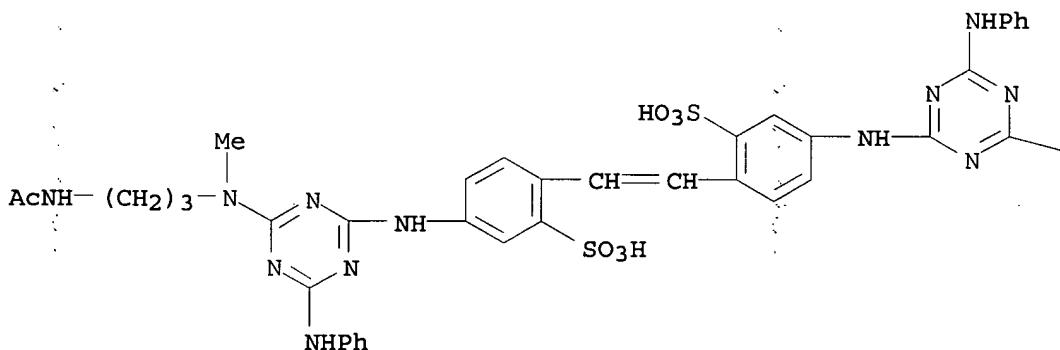
PAGE 1-B

$\text{--NH--}(\text{CH}_2)_3-\text{NHAC}$

RN 56125-26-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-acetylaminopropyl)methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

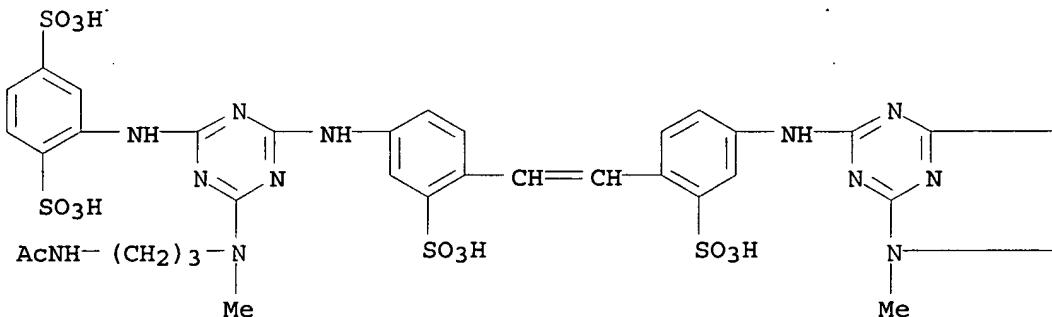
PAGE 1-B

$\text{--N--}(\text{CH}_2)_3-\text{NHAC}$
|
Me

RN 56125-27-0 HCPLUS

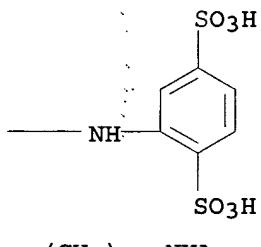
CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediyl)bis[(3-sulfo-4,1-phenylene)imino[6-[[3-(acetylamino)propyl]methylamino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

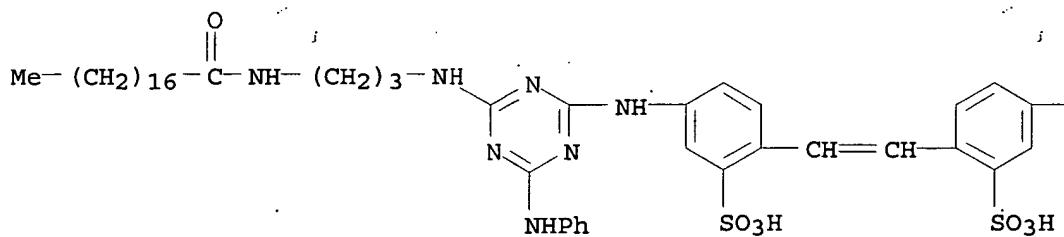
PAGE 1-B

 $-\text{(CH}_2\text{)}_3-\text{NHAC}$

RN 56125-29-2 HCPLUS

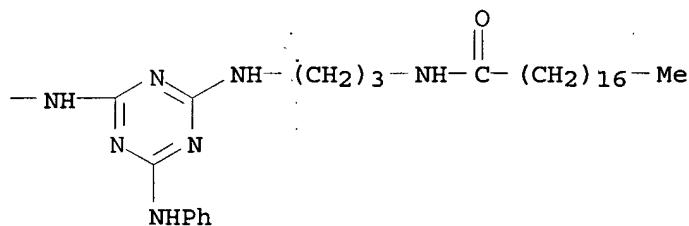
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-[(1-oxooctadecyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

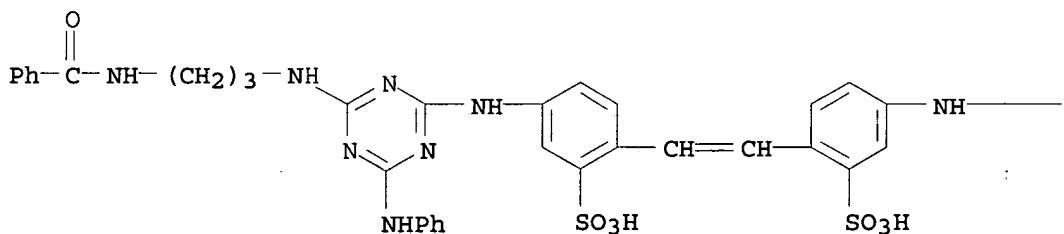
PAGE 1-B



RN 56125-30-5 HCAPLUS

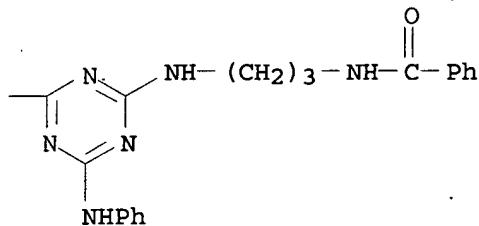
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(benzoylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

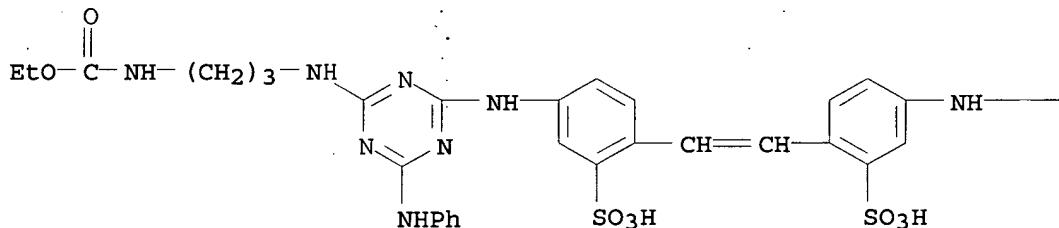
PAGE 1-B



RN 56125-31-6 HCPLUS

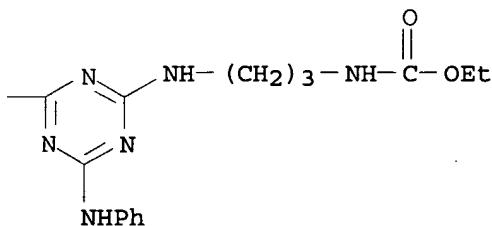
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(3-aminophenoxy)carbonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-ylamino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

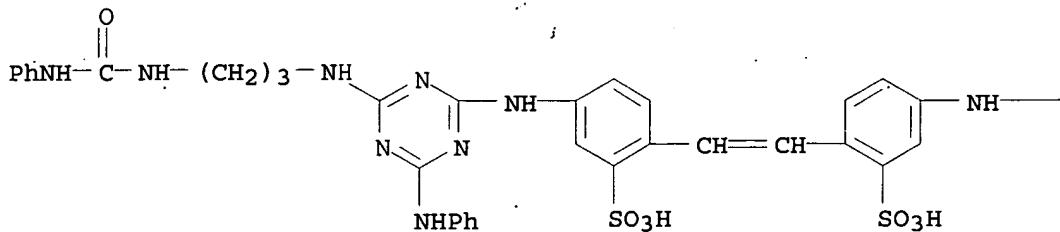
PAGE 1-B



RN 56125-32-7 HCPLUS

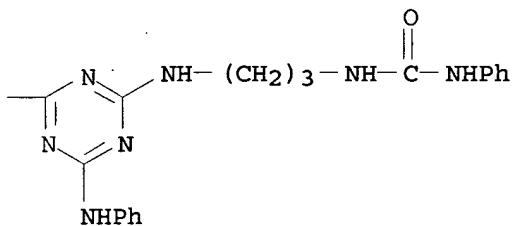
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-(phenylamino)-6-[[3-[(phenylamino)carbonyl]amino]propyl]amino]-1,3,5-triazin-2-ylamino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

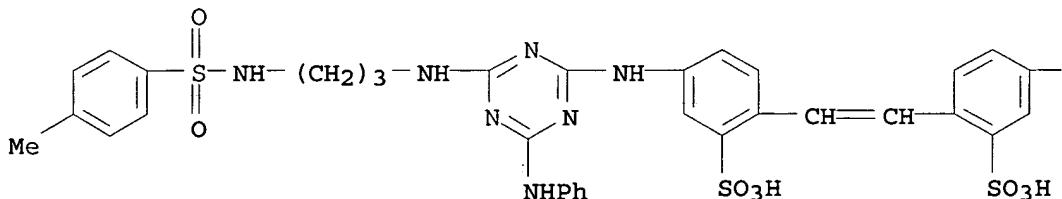
PAGE 1-B



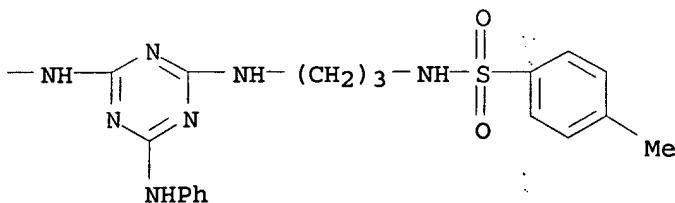
RN 56125-33-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[(3-[(4-methylphenyl)sulfonyl]amino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



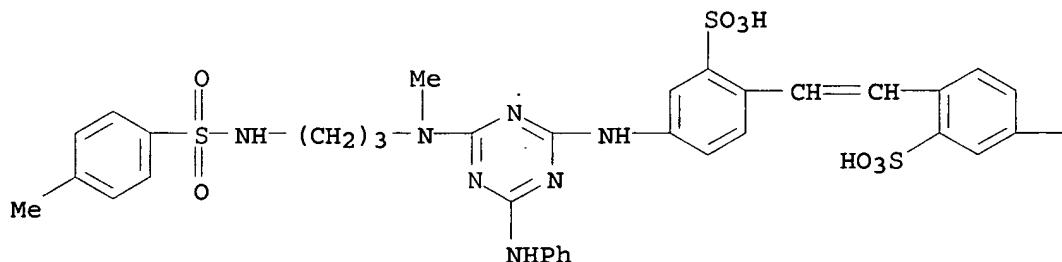
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MEI HUANG EIC1700 REM4B28 571-272-3952

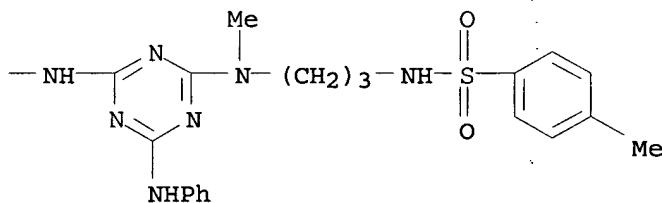
08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[methyl[3-[(4-methylphenyl)sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



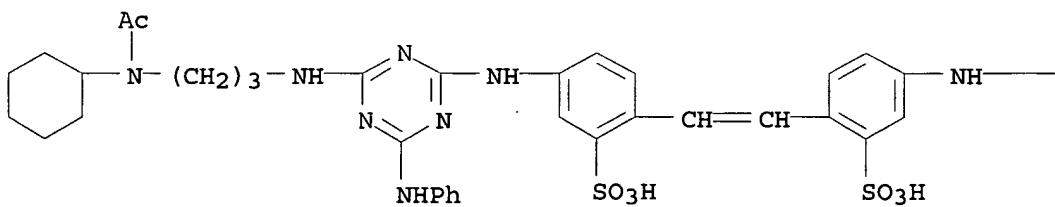
PAGE 1-B



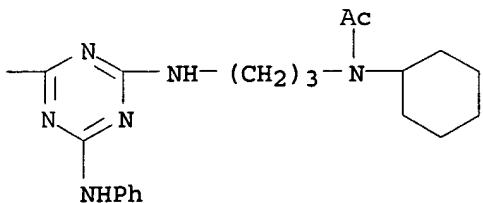
RN 56125-35-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[3-(acetylcyclohexylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



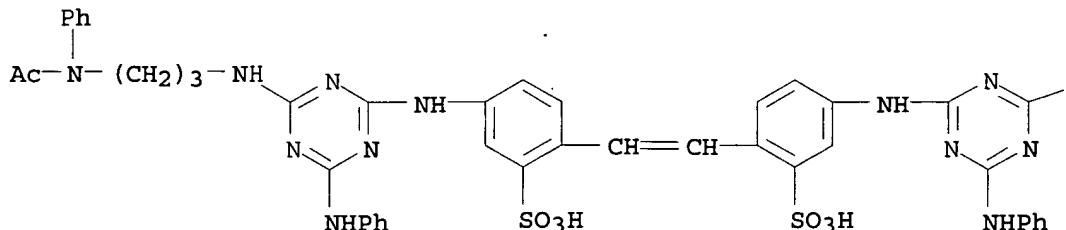
PAGE 1-B



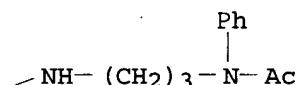
RN 56125-36-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylphenylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



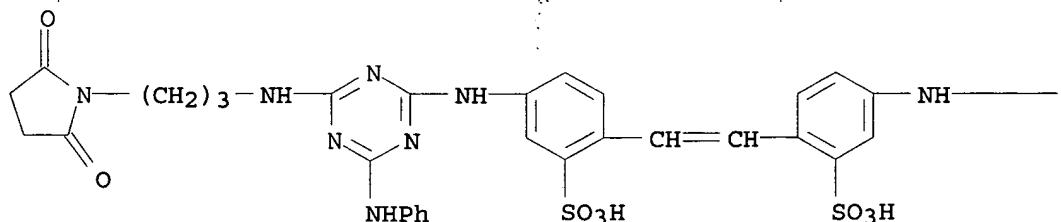
PAGE 1-B



RN 56125-37-2 HCPLUS

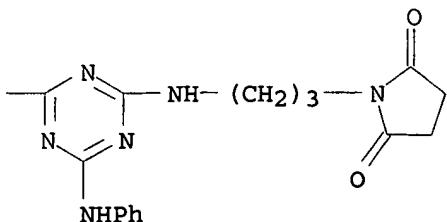
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(2,5-dioxo-1-pyrrolidinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

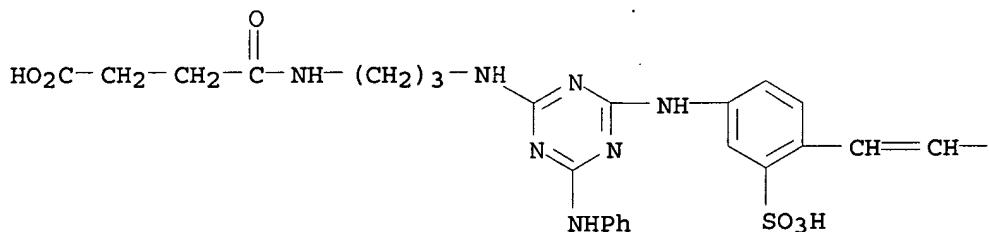
PAGE 1-B



RN 56125-38-3 HCAPLUS

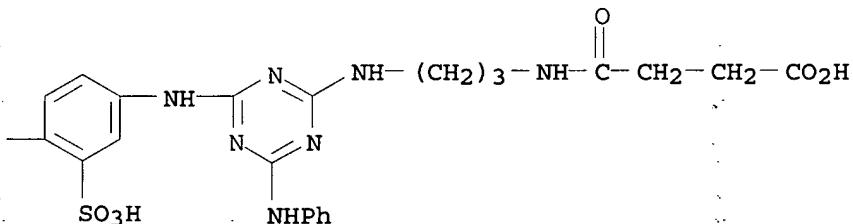
CN Butanoic acid, 4,4'-(1,2-ethenediyl)bis[(3-sulfo-4,1-phenylene)imino[6-(phenylamino)-1,3,5-triazine-4,2-diyl]imino-3,1-propanediylimino]bis[4-oxo-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

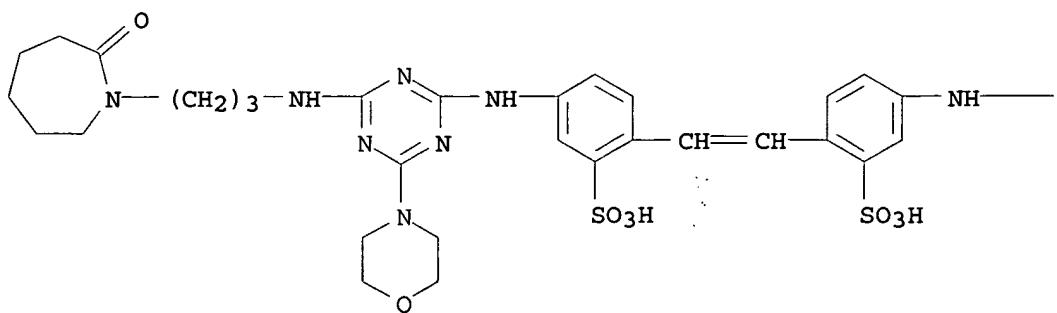
PAGE 1-B



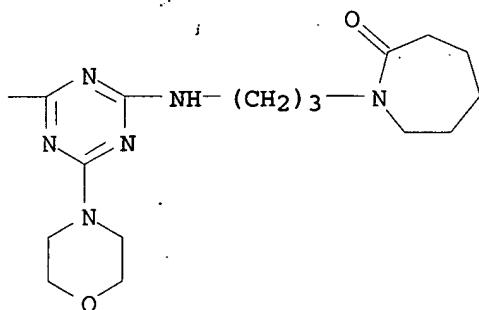
RN 56125-39-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(hexahydro-2-oxo-1H-azepin-1-yl)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



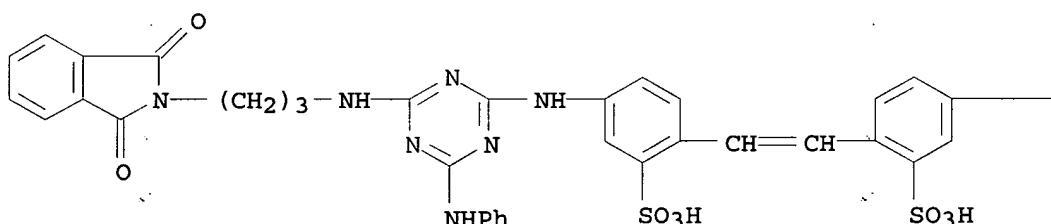
PAGE 1-B



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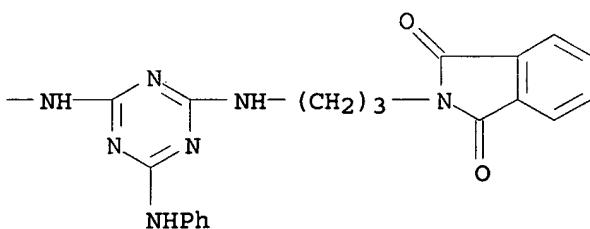
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

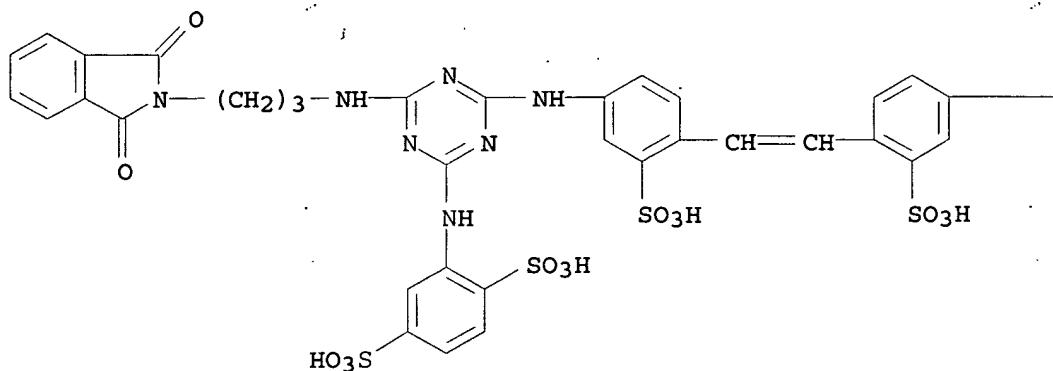
PAGE 1-B



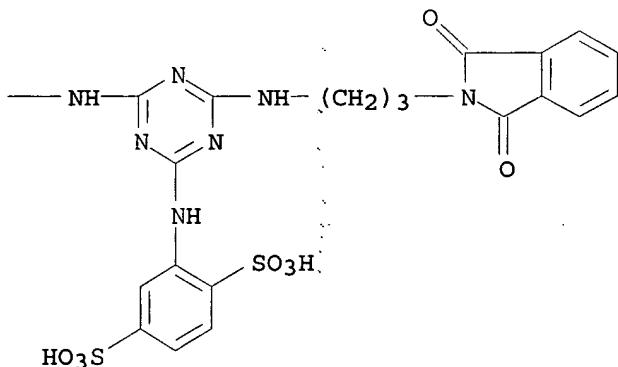
RN 56125-41-8 HCPLUS

CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino][6-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

 $\bullet 6 \text{ Na}$

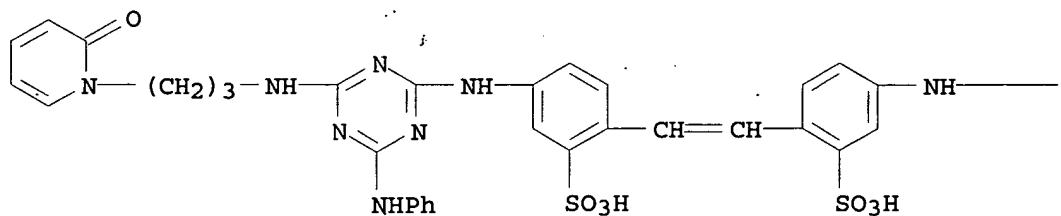
PAGE 1-B



RN 56125-42-9 HCAPLUS

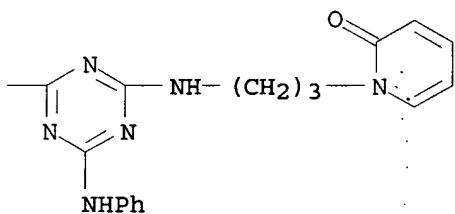
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



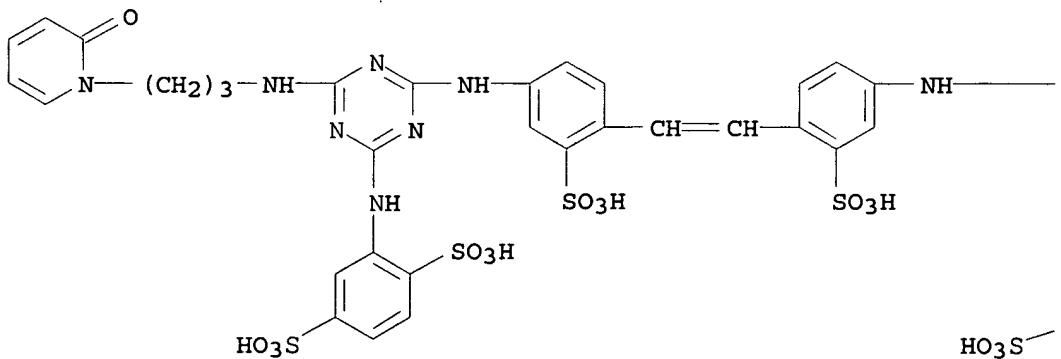
●2 Na

PAGE 1-B



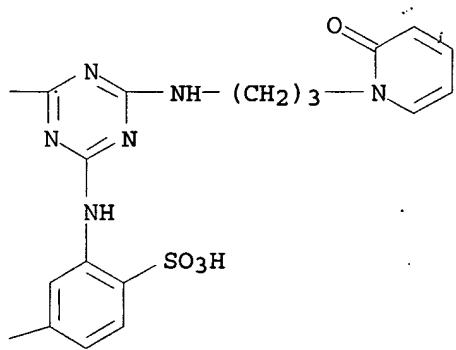
RN 56125-43-0 HCPLUS
 CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

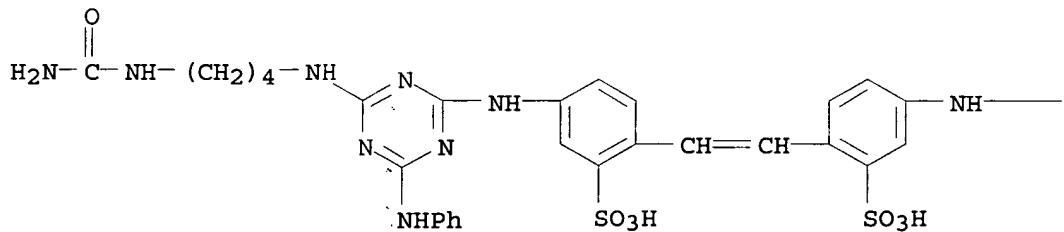
PAGE 1-B



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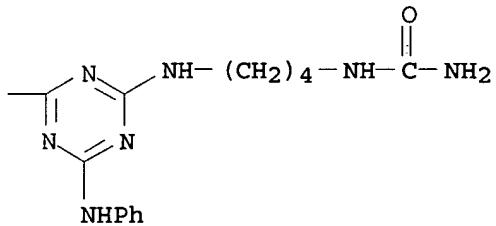
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(aminocarbonyl)amino]butyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

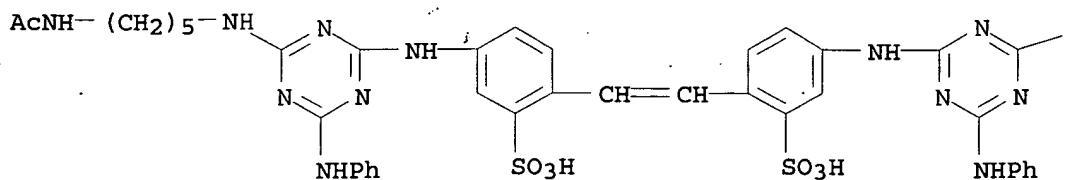
PAGE 1-B



RN 56125-45-2 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(acetyl)amino]pentyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

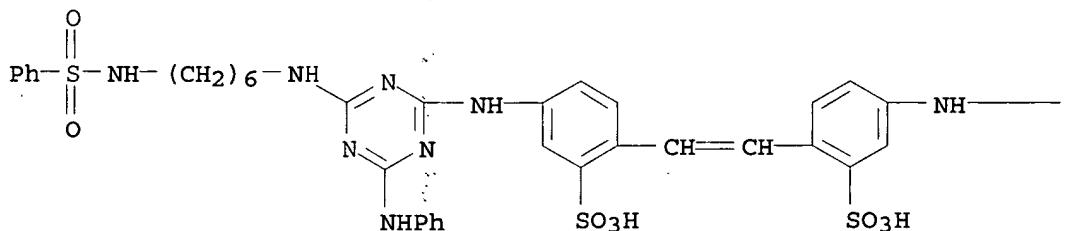
PAGE 1-B

 $-\text{NH}-\text{(CH}_2)_5-\text{NHAC}$

RN 56125-46-3 HCAPLUS

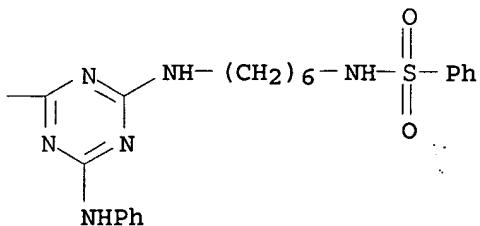
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[(6-[(phenylsulfonyl)amino]hexyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

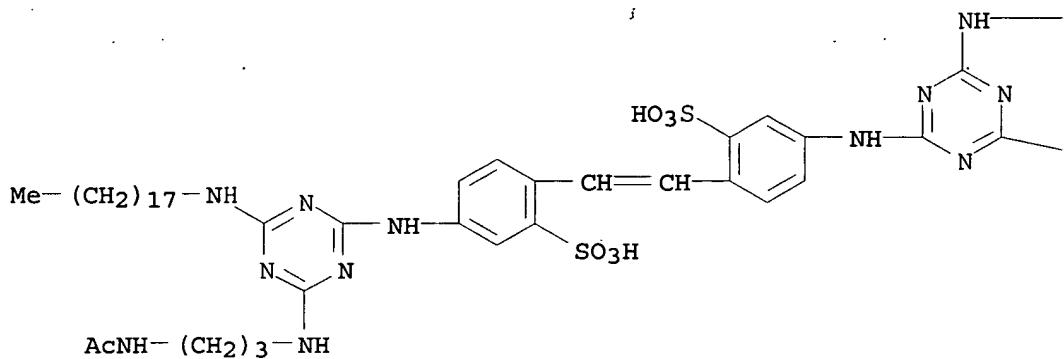
PAGE 1-B



RN 56190-24-0 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(octadecylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

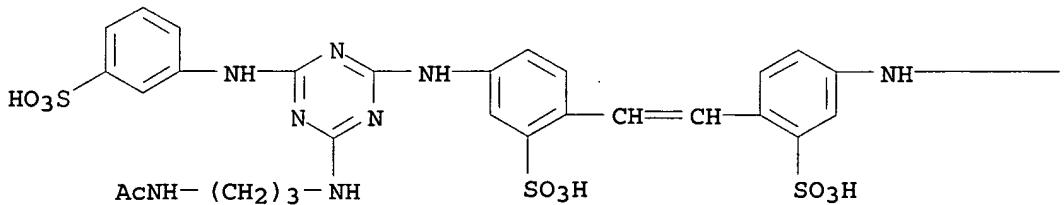
PAGE 1-B

—(CH₂)₃-NHAc—NH-(CH₂)₁₇-Me

RN 56190-25-1 HCAPLUS

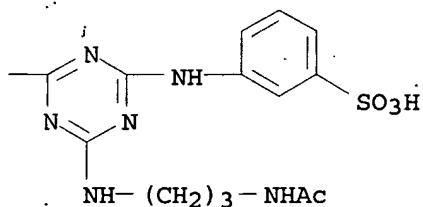
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

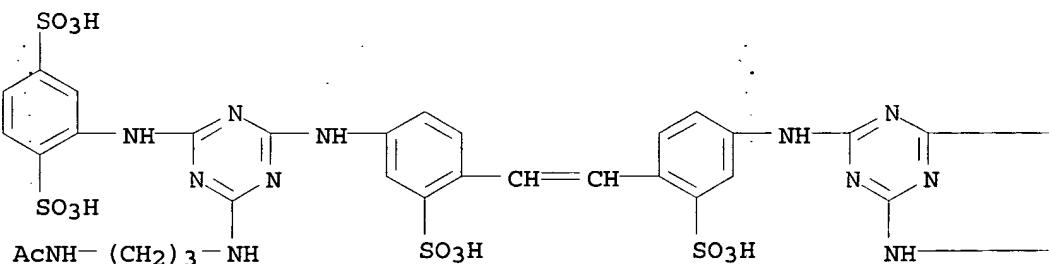
PAGE 1-B



RN 56190-26-2 HCPLUS

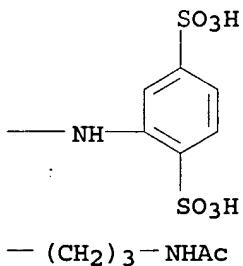
CN 1,4-Benzenebisulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]6-[[3-(acetylamino)propyl]amino]-1,3,5-triazine-4,2-diyl)imino]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 6 Na

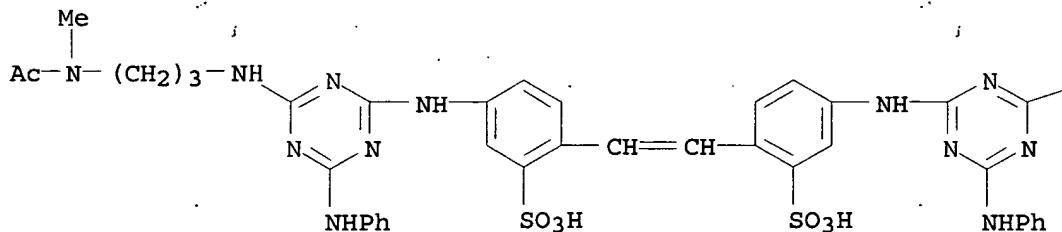
PAGE 1-B



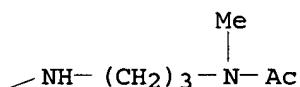
RN 56190-28-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetyl methylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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RN 57038-69-4 HCPLUS

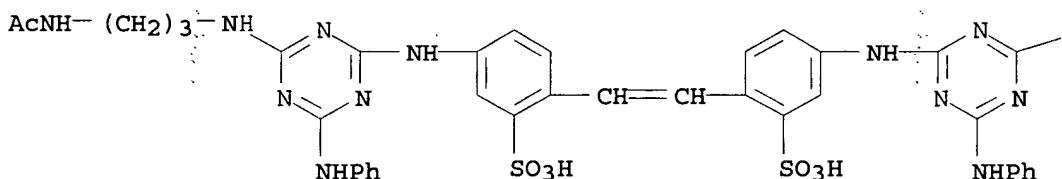
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-aminopropyl)amino]phenyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with 2,2'-iminobis[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 56125-22-5

CMF C42 H46 N14 O8 S2

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CM 2

CRN 111-42-2

CMF C4 H11 N O2

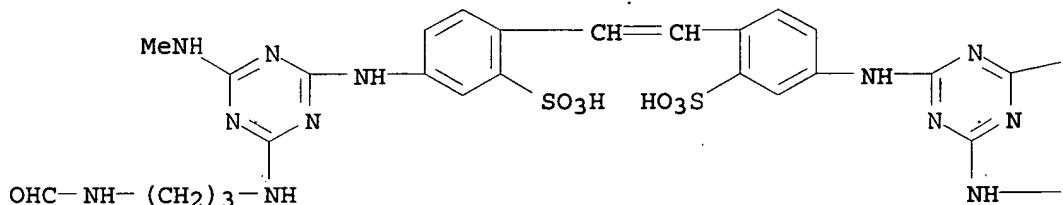


RN 70862-31-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(3-

(formylamino)propyl]amino]-6-(methylamino)-1,3,5-triazin-2-yl]amino]-
disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

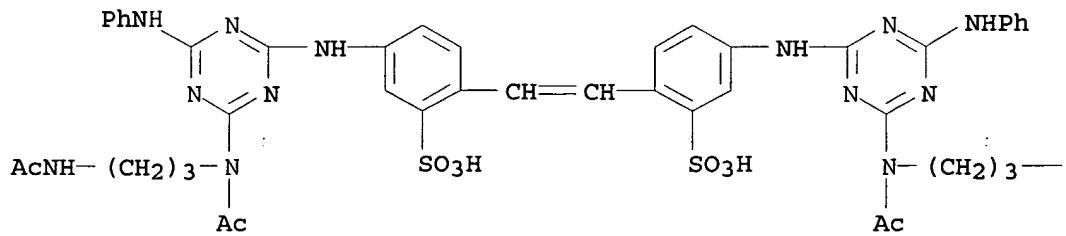
PAGE 1-B

— NHMe

— (CH2)3-NH-CHO

RN 70862-32-7 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[acetyl[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
 (9CI) (CA INDEX NAME)

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— NHAc

IC C07D251-68; C11D003-42; D01F001-10; D21H003-80
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST stilbene fluorescent whitener; polyamide fiber
 fluorescent brightener; cotton fluorescent
 brightener; aminotriazine fluorescent
 brightener; triazinamine fluorescent
 brightener; aminostilbene fluorescent
 brightener
 IT Fluorescent brighteners
 (bis[[amino[(aminoalkyl)amino]triazinyl]amino]stilbenedisulfonic
 acid derivs., for cotton and polyamide fibers)
 IT Polyamide fibers, uses and miscellaneous
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis[[amino[(aminoalkyl)amino]triazinyl]amino]stilbenedisulfonic
 acid derivs. as)
 IT 56125-47-4P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (fluorescent brightener, prepn. and spectral
 properties of)
 IT 56125-09-8 56125-10-1 56125-11-2
 56125-12-3 56125-15-6 56125-16-7
 56125-17-8 56125-18-9 56125-19-0
 56125-20-3 56125-21-4 56125-22-5
 56125-24-7 56125-25-8 56125-26-9 56125-27-0
 56125-29-2 56125-30-5 56125-31-6
 56125-32-7 56125-33-8 56125-34-9
 56125-35-0 56125-36-1 56125-37-2
 56125-38-3 56125-39-4 56125-40-7
 56125-41-8 56125-42-9 56125-43-0
 56125-44-1 56125-45-2 56125-46-3
 56190-24-0 56190-25-1 56190-26-2
 56190-27-3 56190-28-4 57038-69-4
 70862-31-6 70862-32-7
 RL: USES (Uses)
 (fluorescent brightener, spectral properties
 of)
 IT 108-77-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with amines, in fluorescent
 brightener manuf.)
 IT 110-91-8, reactions 121-47-1 4078-13-1 56125-48-5 56125-49-6
 56125-50-9 56125-51-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chlorotriazine deriv., in fluorescent
 brightener manuf.)
 IT 62-53-3, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dichlorotriazine deriv., in
 fluorescent brightener manuf.)

L46 ANSWER 16 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:499221 HCPLUS
 DOCUMENT NUMBER: 83:99221
 TITLE: Bis(triazinylamino)stilbenedisulfonic acid
 derivatives
 INVENTOR(S): Mengler, Helmut; Schinzel, Erich; Roesch,
 Guenter
 PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 39 pp.

CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2444784	A1	19750403	DE 1974-2444784	197409 19
CH 7313558	A4	19770831	CH 1973-13558	197309 21
CH 603878	B	19780831		
NL 7412250	A	19750325	NL 1974-12250	197409 16
US 3951965	A	19760420	US 1974-506985	197409 18
DD 114842	C	19750820	DD 1974-181207	197409 19
IT 1022132	A	19780320	IT 1974-27491	197409 19
JP 50059420	A2	19750522	JP 1974-107863	197409 20
BR 7407858	A0	19750729	BR 1974-7858	197409 20
CA 1044233	A1	19781212	CA 1974-209718	197409 20
FR 2244765	A1	19750418	FR 1974-31960	197409 23
FR 2244765	B1	19781124		
GB 1489595	A	19771019	GB 1974-41388	197409 23
PRIORITY APPLN. INFO.:			CH 1973-13558	A
GI	For diagram(s), see printed CA Issue.			197309 21

AB **Fluorescent whiteners [I, R = PhNH, substituted PhNH, alkylamino, Cl, alkenylamino, alkoxy, morpholino, pyrrolidinyl; R1 = H, Me, AcNHCH₂CH₂CH₂; (R₂R₃N) = acylamino, succinimido, sulfonamido, phthalimido, ureido, oxopyridyl; R₄ = H, Na, HN(CH₂CH₂OH)₃, HNET₃; Z = alkylene] were prep'd. and used to whiten cotton, rayon, polyamide, polyurethane, and wool fibers. Thus, cyanuric chloride was condensed with 4,2-H₂N(HO₃S)C₆H₃CH:CHC₆H₃(SO₃H)NH₂-2,4 [81-11-8], the bis(dichlorotriazinyl) compd. heated with PhNH₂ [62-53-3] at pH 5-5.5 and 15°, the reaction product treated with H₂NCH₂CH₂CH₂NHCHO [56125-51-0] at pH 8-9, and the reaction mixt. salted to give fluorescent whitener I (R = PhNH, R₁ = R₂ = H, R₃ = CHO, R₄ = Na, Z = CH₂CH₂CH₂) [56125-47-4]. The other I were similarly prep'd.**

IT 56125-09-8P 56125-10-1P 56125-11-2P
 56125-12-3P 56125-14-5P 56125-15-6P
 56125-16-7P 56125-17-8P 56125-18-9P
 56125-19-0P 56125-20-3P 56125-21-4P
 56125-22-5P 56125-23-6P 56125-26-9P
 56125-27-0P 56125-28-1P 56125-29-2P
 56125-30-5P 56125-31-6P 56125-33-8P
 56125-34-9P 56125-35-0P 56125-36-1P
 56125-37-2P 56125-38-3P 56125-39-4P
 56125-40-7P 56125-41-8P 56125-42-9P
 56125-43-0P 56125-44-1P 56125-45-2P
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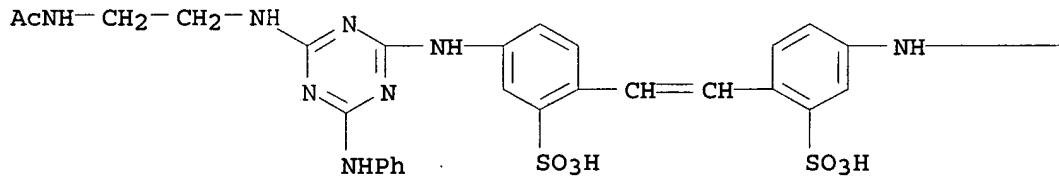
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and fluorescent spectra of)

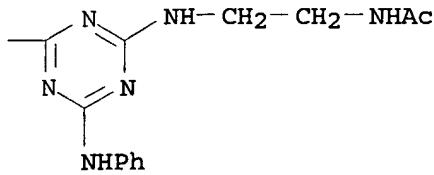
RN 56125-09-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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RN 56125-10-1 HCPLUS

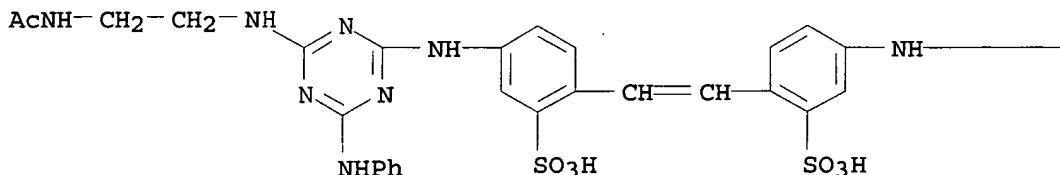
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-

, compd. with 2,2',2'''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

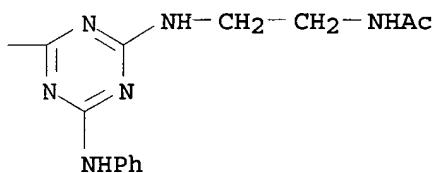
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CRN 56125-09-8
CMF C40 H42 N14 O8 S2

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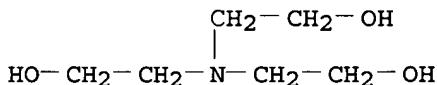


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CM 2

CRN 102-71-6
CMF C6 H15 N O3



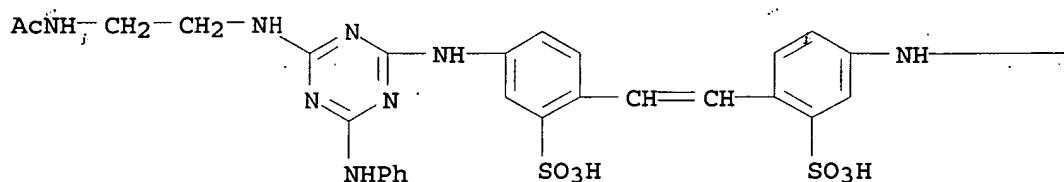
RN 56125-11-2 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[2-(acetylamino)ethyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with N,N-diethylethanamine (1:2) (9CI) (CA INDEX NAME)

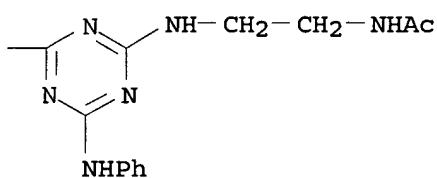
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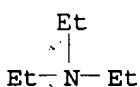
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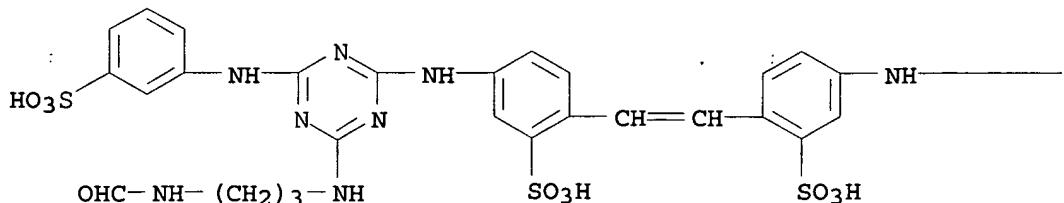
CM 2

CRN 121-44-8
CMF C₆ H₁₅ N

RN 56125-12-3 HCPLUS

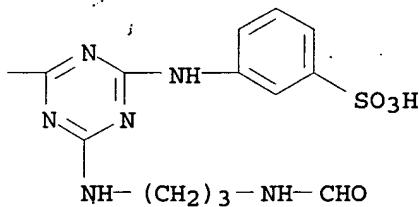
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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●4 Na

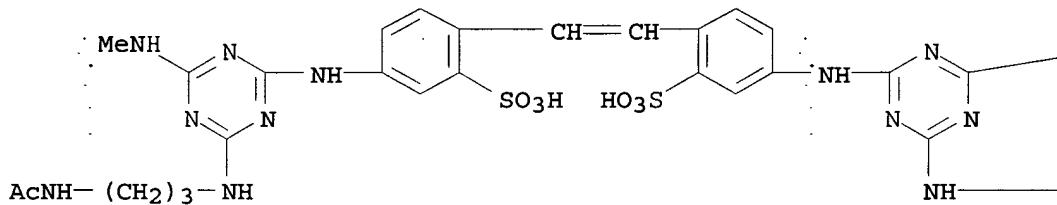
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RN 56125-14-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

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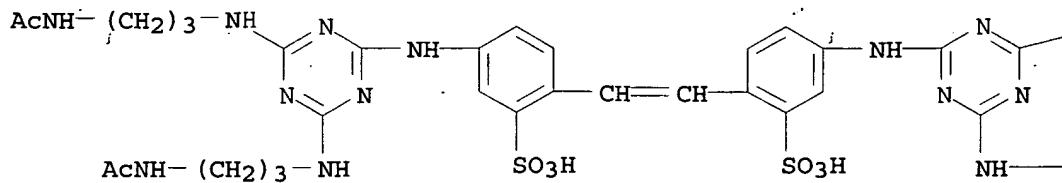
— NHMe

— (CH2)3-NHAc

RN 56125-15-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4,6-bis[[3-(acetylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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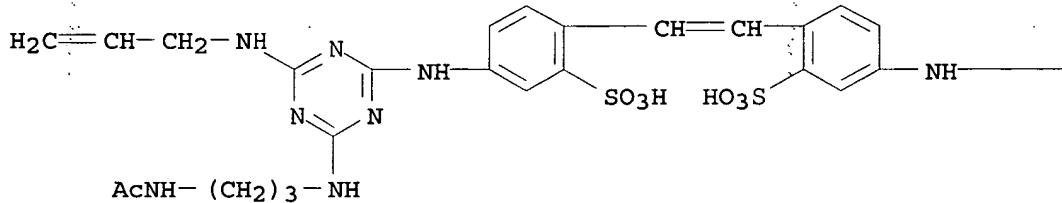
●2 Na

PAGE 1-B

 $\longrightarrow \text{NH}-\text{(CH}_2)_3-\text{NHAC}$ $\longrightarrow (\text{CH}_2)_3-\text{NHAC}$

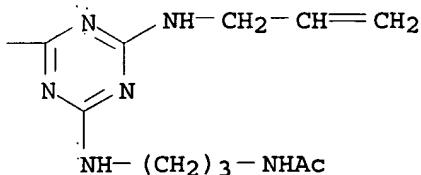
RN 56125-16-7 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(2-propenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

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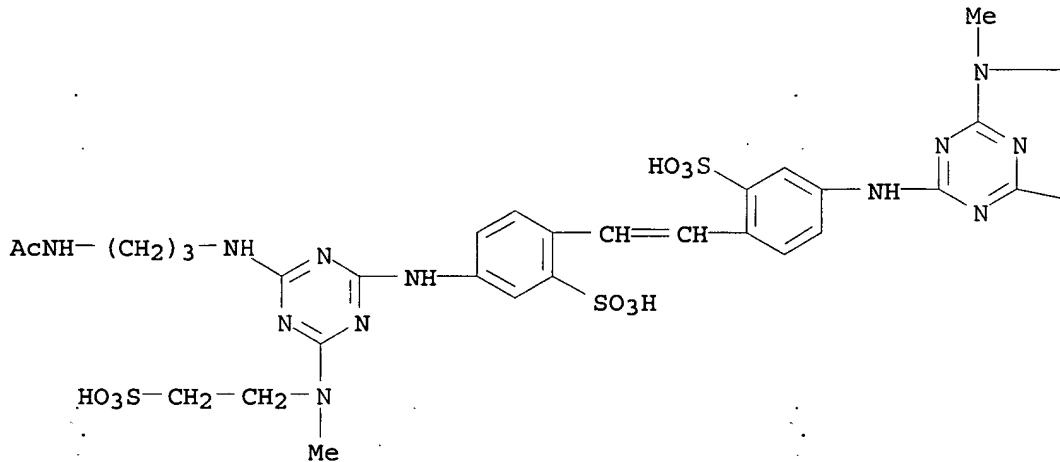
RN 56125-17-8 HCPLUS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[methyl(2-sulfoethyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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●4 Na

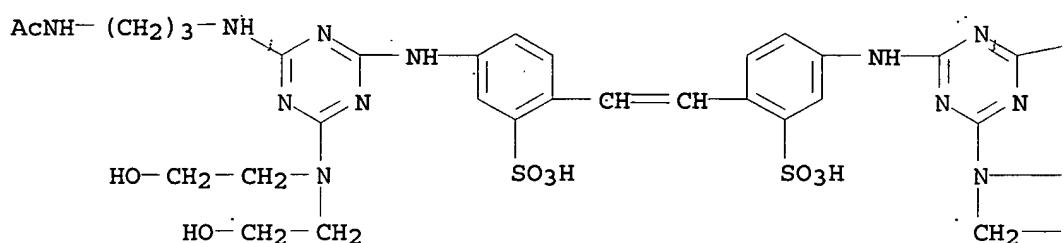
PAGE 1-B

— CH₂— CH₂— SO₃H— NH— (CH₂)₃— NHAc

RN 56125-18-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

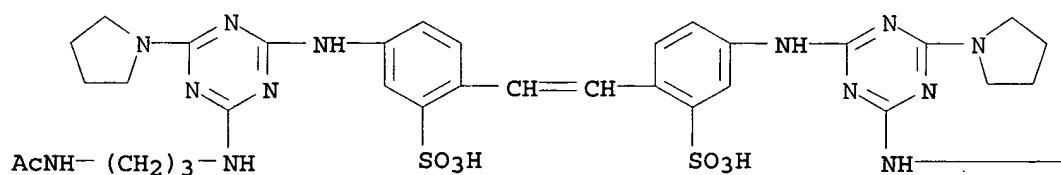
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— NH- (CH₂)₃- NHAc— CH₂- CH₂- OH— CH₂- OH

RN 56125-19-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(1-pyrrolidinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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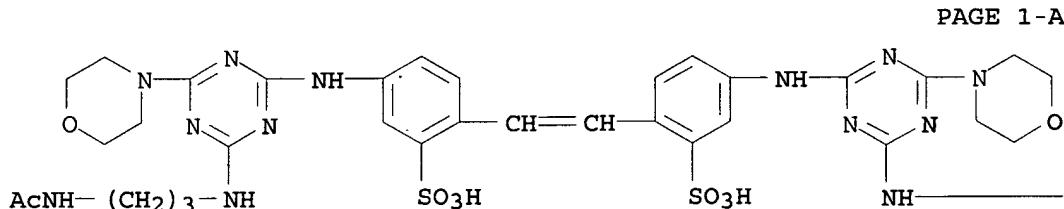
●2 Na

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— (CH₂)₃- NHAc

RN 56125-20-3 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



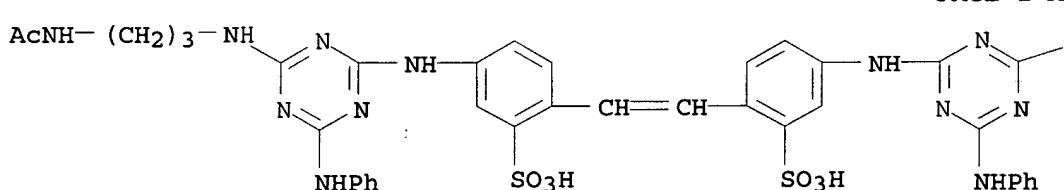
●2 Na

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—(CH₂)₃-NHAc

RN 56125-21-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

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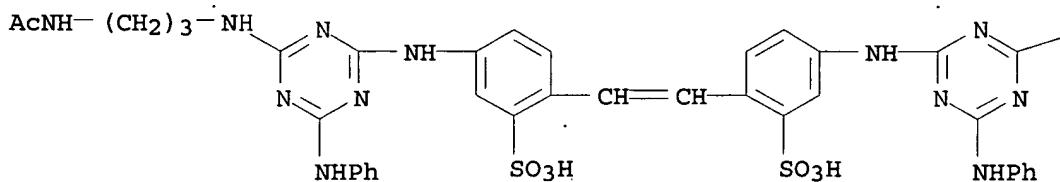
—NH—(CH₂)₃-NHAc

RN 56125-22-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-

(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

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$-\text{NH}-\text{(CH}_2)_3-\text{NHAC}$

RN 56125-23-6 HCPLUS

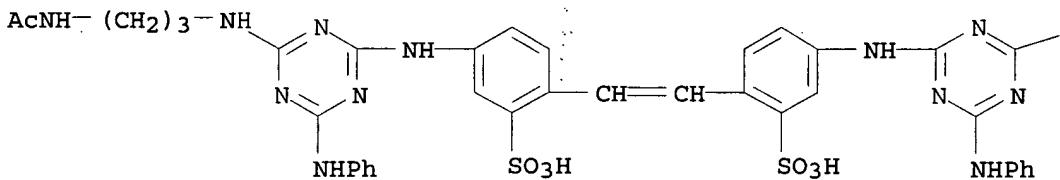
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, compd. with 2,2',2'''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 56125-22-5

CMF C42 H46 N14 O8 S2

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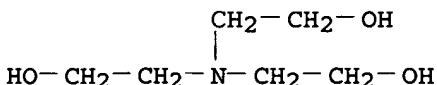
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$-\text{NH}-\text{(CH}_2)_3-\text{NHAC}$

CM 2

CRN 102-71-6

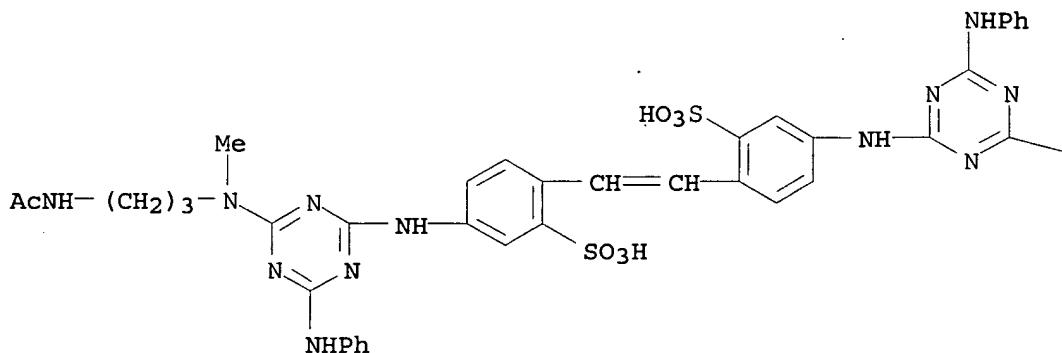
CMF C6 H15 N O3



RN 56125-26-9 HCAPLUS

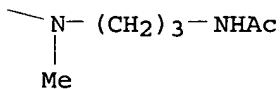
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]methylamino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

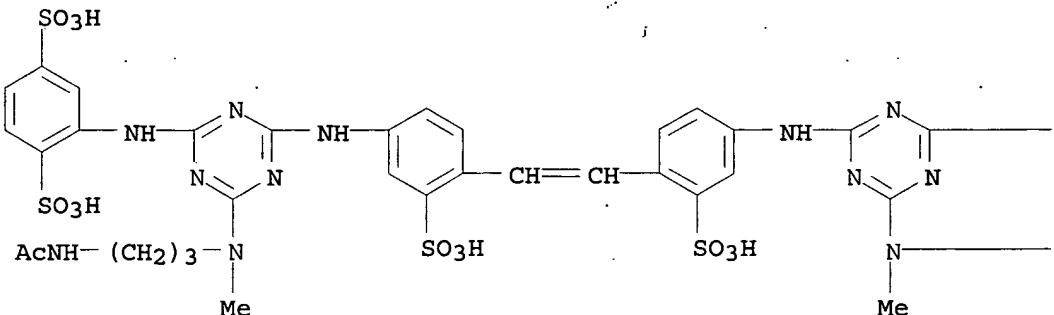
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RN 56125-27-0 HCAPLUS

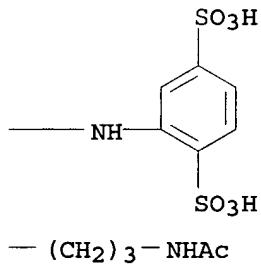
CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediyl]bis[(3-sulfo-4,1-phenylene)imino]6-[[3-(acetylamino)propyl]methylamino]-1,3,5-triazine-4,2-diyl]imino]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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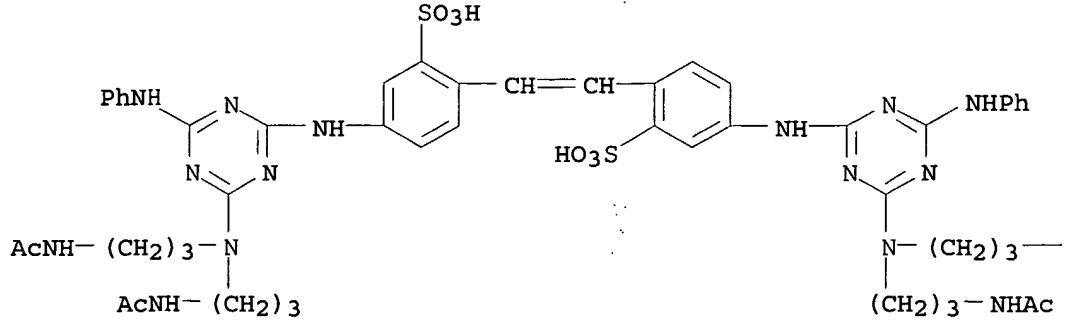
● 6 Na

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RN 56125-28-1 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis[3-(acetylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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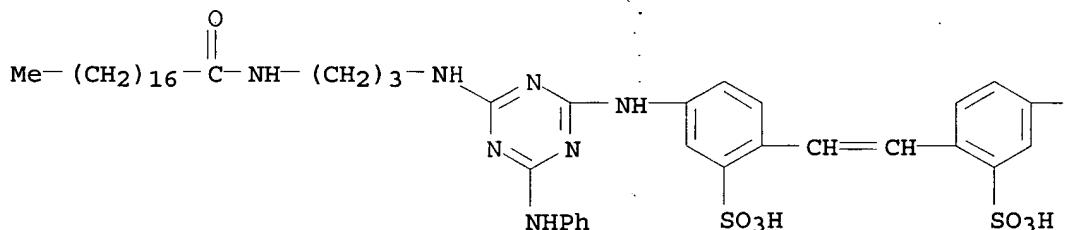
PAGE 1-B

— NHAc

RN 56125-29-2 HCPLUS

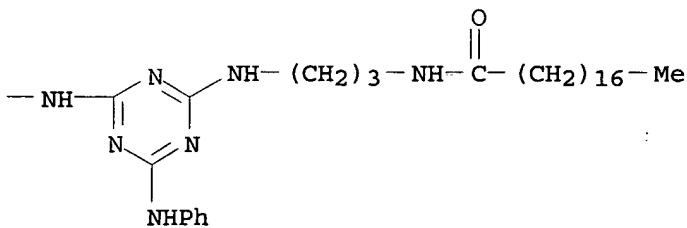
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-[(1-oxooctadecyl)aminol]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

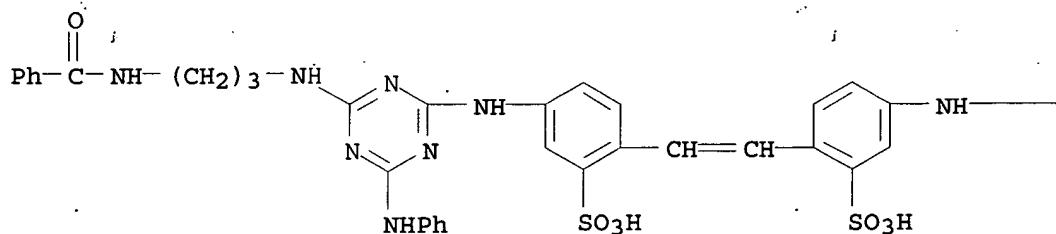
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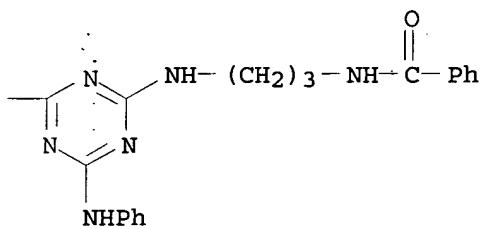
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(benzoylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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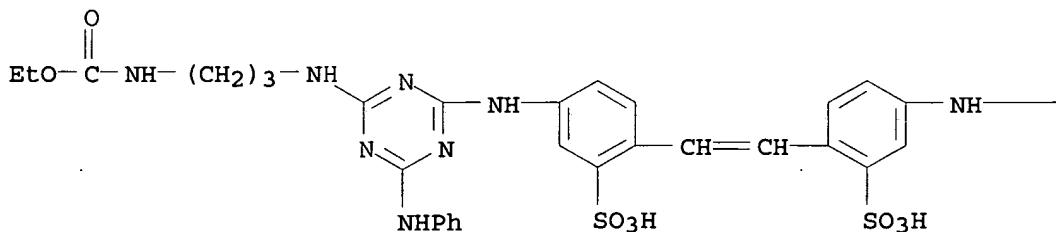
●2 Na

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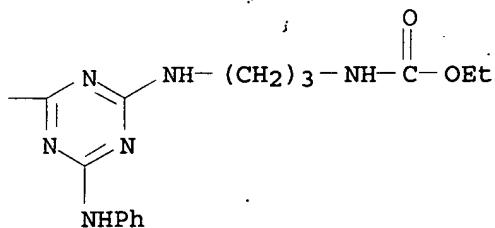
RN 56125-31-6 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-[(ethoxycarbonyl)amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

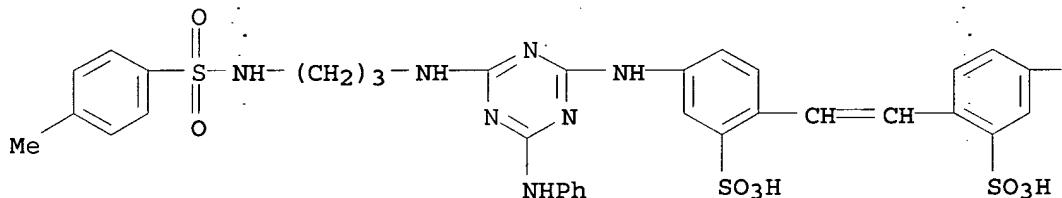
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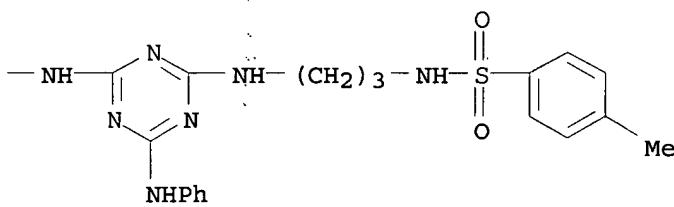
RN 56125-33-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-[[4-methylphenyl]sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

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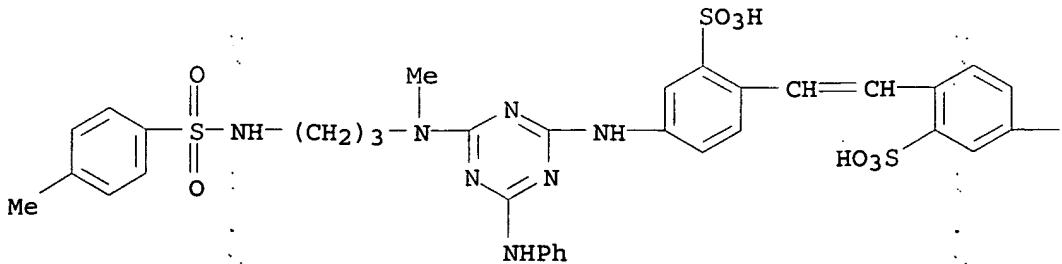
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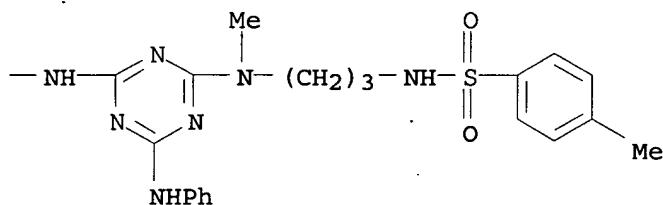
RN 56125-34-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[methyl[3-[[4-methylphenyl]sulfonyl]amino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

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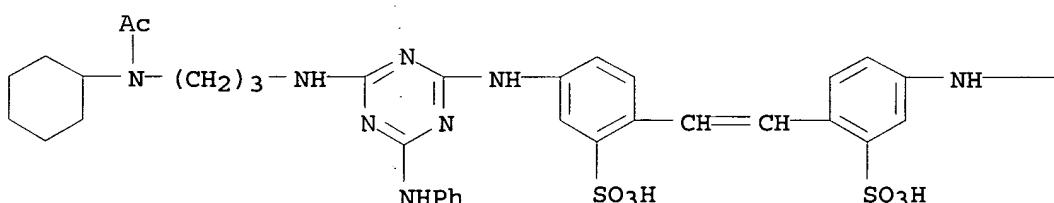
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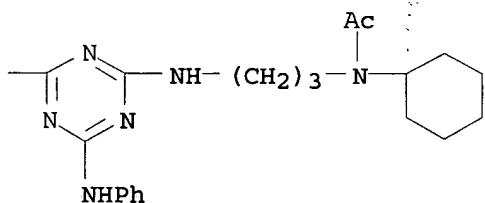
RN 56125-35-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetyl)cyclohexylamino]propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

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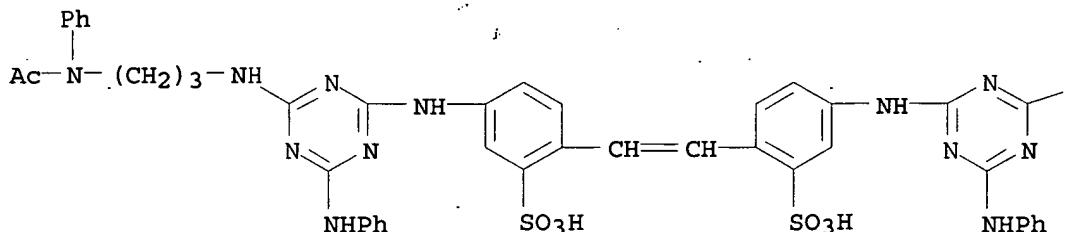
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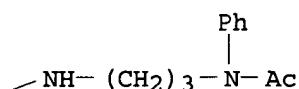
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CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylphenylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

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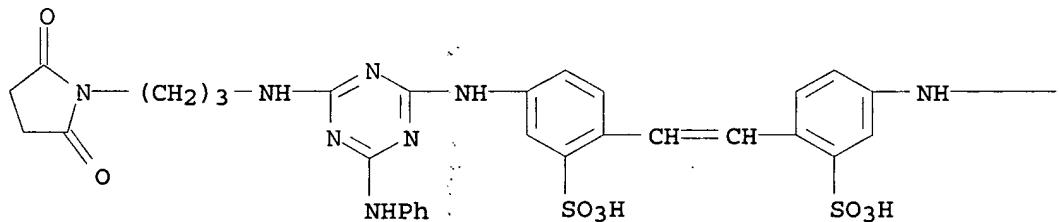
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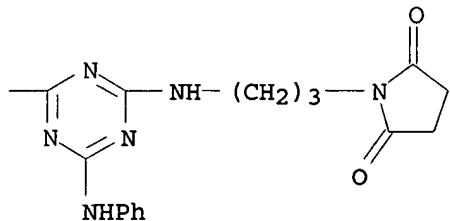
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(2,5-dioxo-1-pyrrolidinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

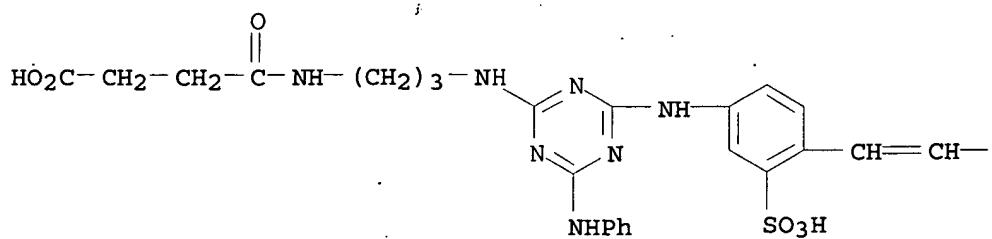
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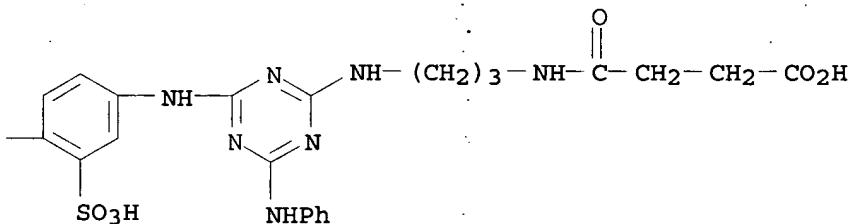
CN Butanoic acid, 4,4'-(1,2-ethenediylyl)bis[(3-sulfo-4,1-phenylene)imino[6-(phenylamino)-1,3,5-triazine-4,2-diyl]imino-3,1-propanediylimino]bis[4-oxo-, tetrasodium salt (9CI) (CA INDEX NAME)

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●4 Na

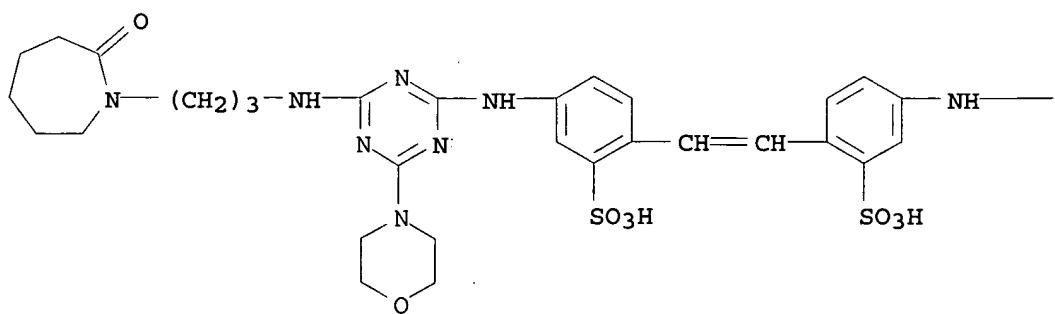
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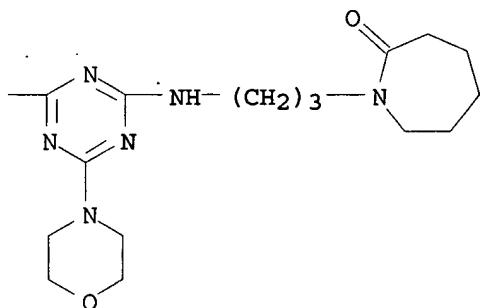
RN 56125-39-4 HCPLUS

CN Benzenesulfonic acid, 2;2'-(1,2-ethenediyil)bis[5-[[4-[[3-(hexahydro-2-oxo-1H-azepin-1-yl)propyl]amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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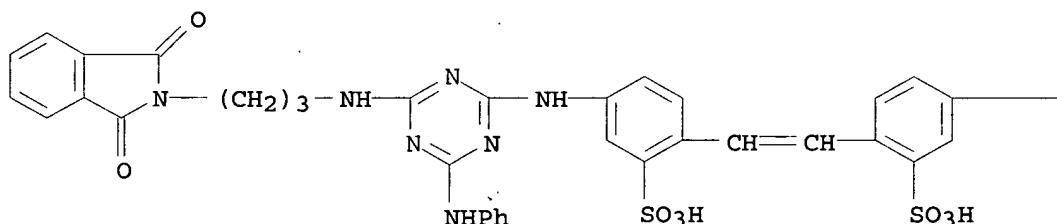


PAGE 1-B



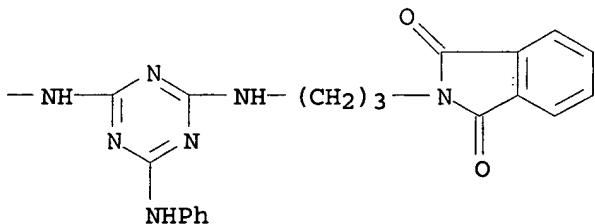
RN 56125-40-7 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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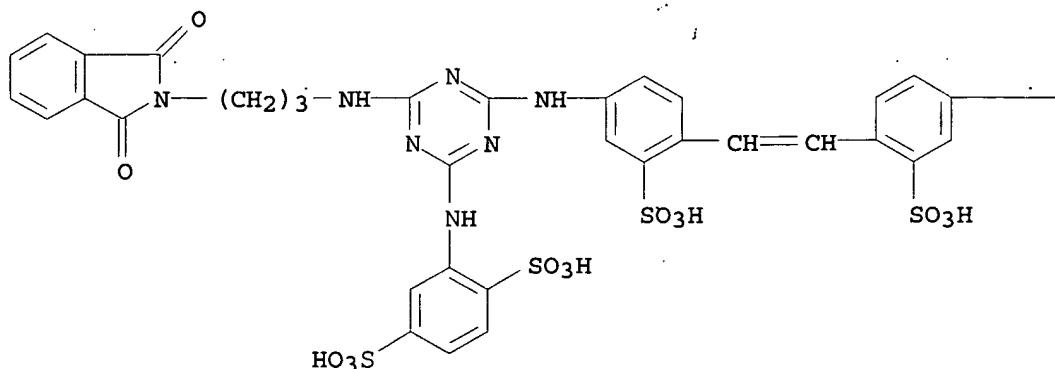
●2 Na

PAGE 1-B



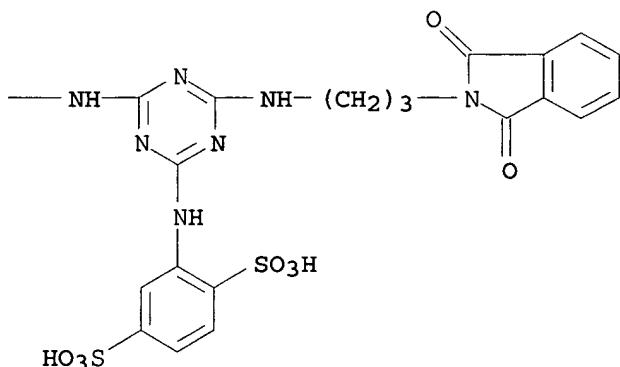
RN 56125-41-8 HCPLUS
 CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino][6-[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

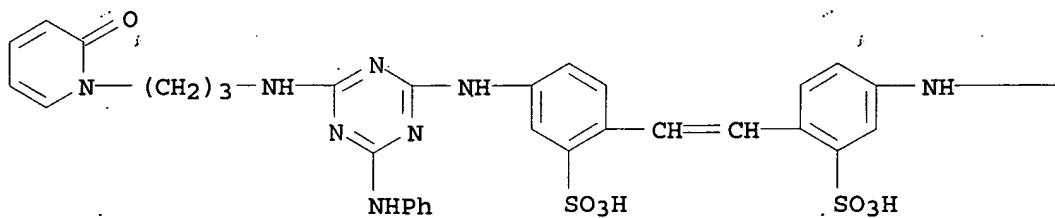
PAGE 1-B



RN 56125-42-9 HCPLUS

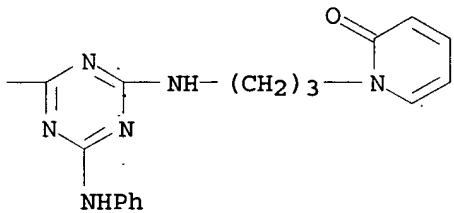
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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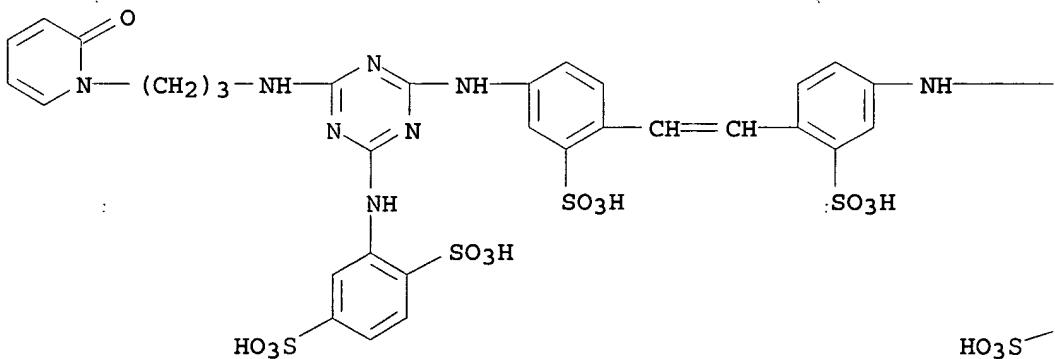
●2 Na

PAGE 1-B



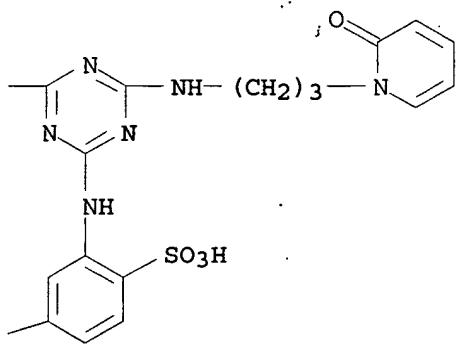
RN 56125-43-0 HCPLUS
 CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]6-[[3-(2-oxo-1(2H)-pyridinyl)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

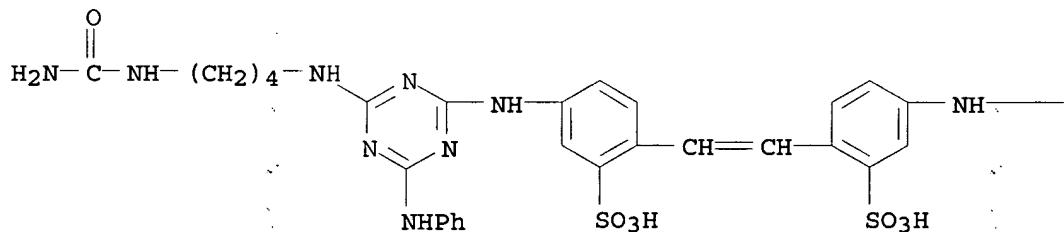
PAGE 1-B



RN 56125-44-1 HCPLUS

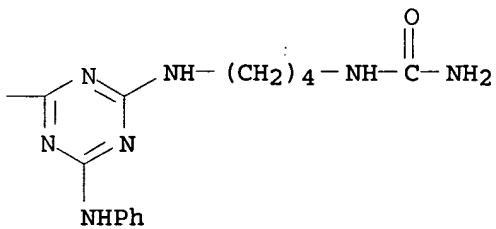
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(aminocarbonyl)amino]butyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

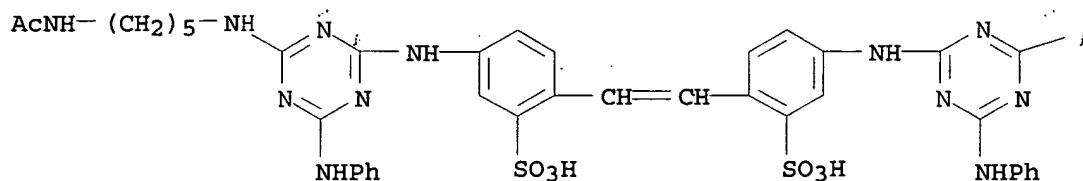
PAGE 1-B



RN 56125-45-2 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(acetylamino)pentyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

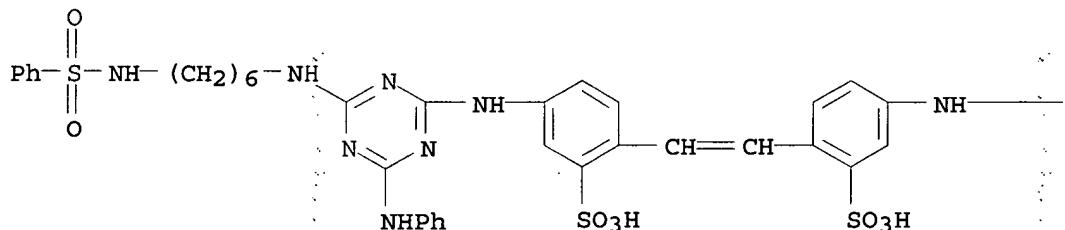
PAGE 1-B

—NH—(CH₂)₅—NHAc

RN 56125-46-3 HCPLUS

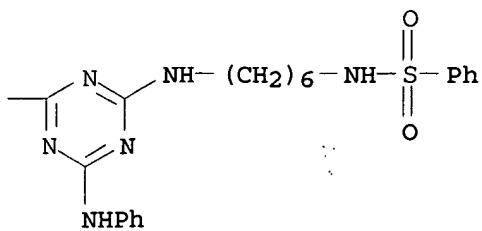
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[(6-[(phenylsulfonyl)amino]hexyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

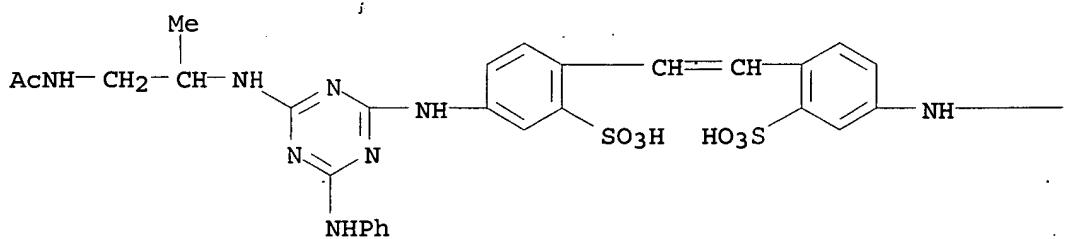
PAGE 1-B



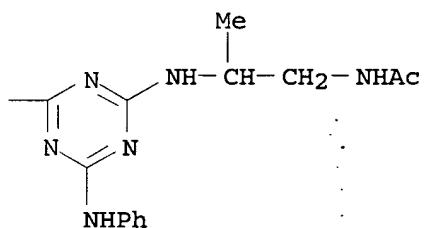
RN 56190-23-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-acetylhexyl)amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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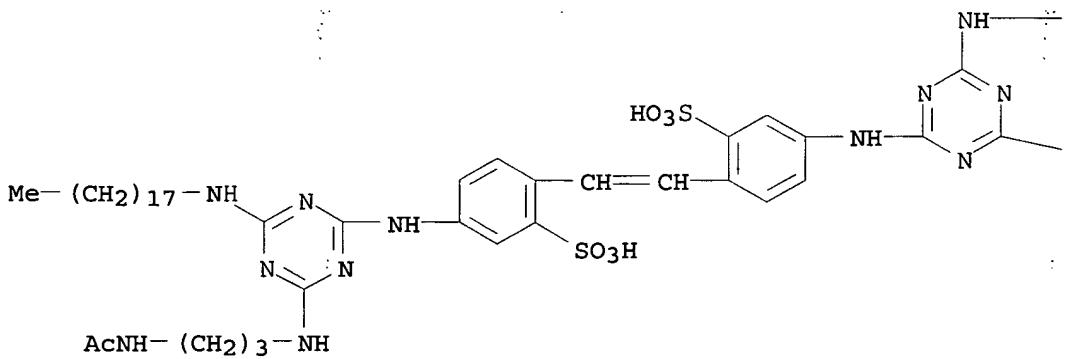
PAGE 1-B



RN 56190-24-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-(octadecylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

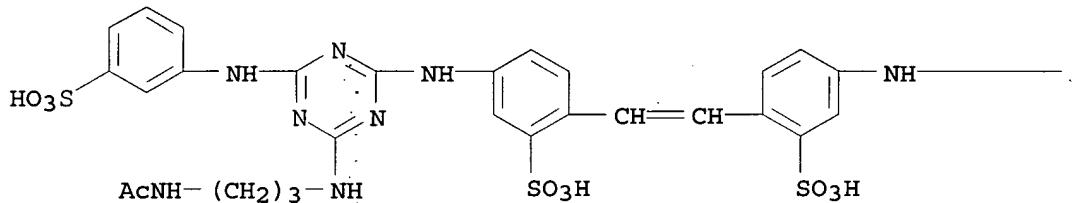
PAGE 1-B

 $\text{---} (\text{CH}_2)_3 - \text{NHAc}$ $\text{---} \text{NH} - (\text{CH}_2)_{17} - \text{Me}$

RN 56190-25-1 HCPLUS

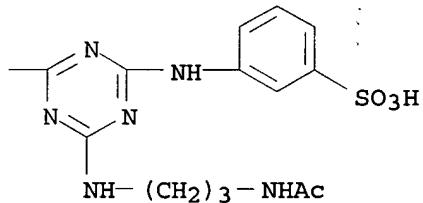
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[[3-(acetylamino)propyl]amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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●4 Na

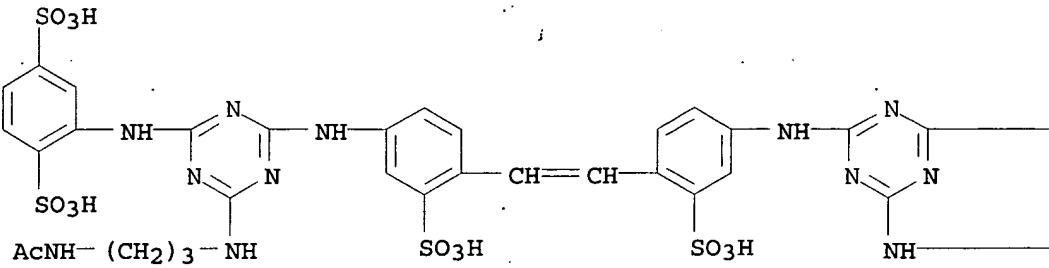
PAGE 1-B



RN 56190-26-2 HCPLUS

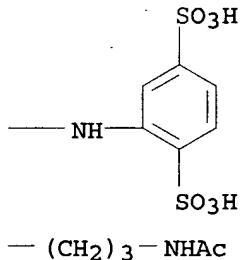
CN 1,4-Benzene-disulfonic acid, 2,2'-[1,2-ethenediyilbis[(3-sulfo-4,1-phenylene)imino][6-[[3-(acetylamino)propyl]amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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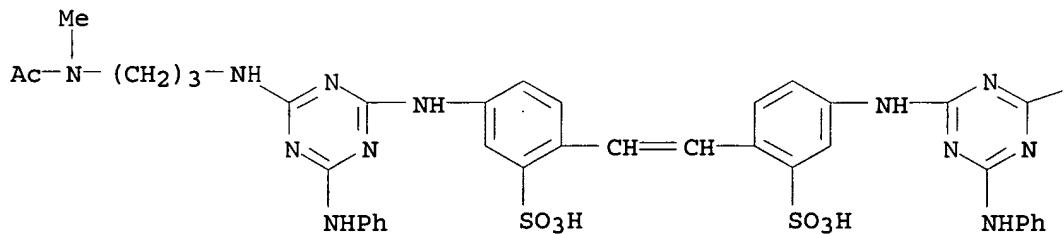
●6 Na

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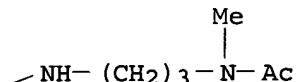


RN 56190-28-4 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(acetyl methylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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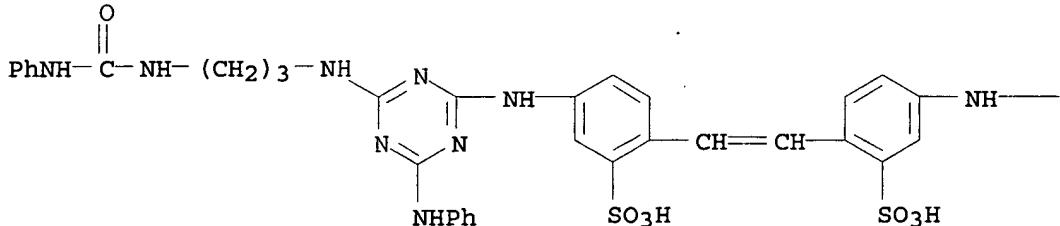
IT 56125-32-7P 56125-47-4P
 RL: IMF (Industrial manufacture); PREP (Preparation)

(prepn. of)

RN 56125-32-7 HCPLUS

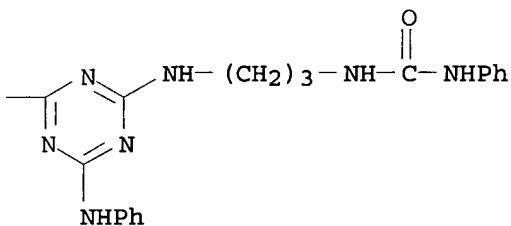
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(phenylamino)-6-[[3-[[[(phenylamino)carbonyl]amino]propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

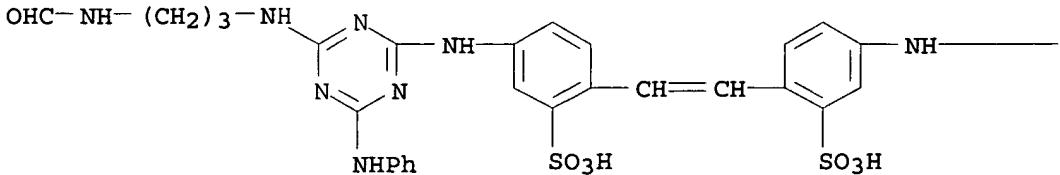
PAGE 1-B



RN 56125-47-4 HCPLUS

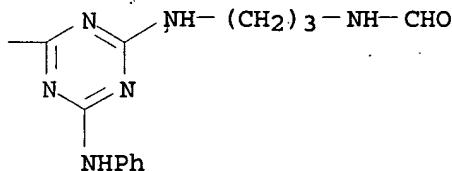
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[[3-(formylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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●2 Na

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IC C07D
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST fluorescent brightener
 triazinylaminostilbenedisulfonic acid; stilbenedisulfonic acid
 fluorescent brightener; cotton fluorescent
 brightener; rayon fluorescent brightener
 ; polyamide fiber fluorescent brightener; wool
 fluorescent brightener; polyurethane fiber
 fluorescent brightener
 IT Fluorescent brighteners
 (bis(triazinylamino)stilbenedisulfonic acid acyl derivs., cotton,
 rayon, polyamide, polyurethane and wool fibers)
 IT Polyamide fibers
 Spandex fibers
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid acyl derivs. as)
 IT 56125-09-8P 56125-10-1P 56125-11-2P
 56125-12-3P 56125-13-4P 56125-14-5P
 56125-15-6P 56125-16-7P 56125-17-8P
 56125-18-9P 56125-19-0P 56125-20-3P
 56125-21-4P 56125-22-5P 56125-23-6P
 56125-24-7P 56125-25-8P 56125-26-9P 56125-27-0P
 56125-28-1P 56125-29-2P 56125-30-5P
 56125-31-6P 56125-33-8P 56125-34-9P
 56125-35-0P 56125-36-1P 56125-37-2P
 56125-38-3P 56125-39-4P 56125-40-7P
 56125-41-8P 56125-42-9P 56125-43-0P
 56125-44-1P 56125-45-2P 56125-46-3P
 56190-23-9P 56190-24-0P 56190-25-1P
 56190-26-2P 56190-27-3P 56190-28-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (prepn. and fluorescent spectra of)
 IT 56125-32-7P 56125-47-4P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:74469 HCAPLUS
 DOCUMENT NUMBER: 82:74469
 TITLE: Fluorescent whitener for
 paper
 INVENTOR(S): Fringeli, Werner
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
 SOURCE: Ger. Offen., 21 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2403455	A1	19740808	DE 1974-2403455	197401 25
CH 582275	A	19761130	CH 1973-1561	197302 02
US 3954740	A	19760504	US 1974-435785	197401 23
GB 1415822	A	19751126	GB 1974-3843	197401 28
FR 2216284	A1	19740830	FR 1974-3246	197401 31
PRIORITY APPLN. INFO.:			CH 1973-1561	A 197302 02

GI For diagram(s), see printed CA Issue.

AB A fluorescent whitener (I) [53460-08-5

} was prep'd. and used in paper coatings. Thus, 2,5-(NaO₃S)₂C₆H₃NH₂ was added to cyanuric chloride in aq. Me₂CO with maintaining pH 3-4 (with 15% Na₂CO₃), the mixt. stirred 4 hr at 0-5° and pH 3-4, di-Na 4,4'-diamino-2,2'-stilbenedisulfonate added, the mixt. was stirred 4 hr at 20-30° and pH 7, and heated with MeOCH₂CH₂NHCH₂CH₂CN 5 hr at 95-100° and pH 8-9 to give water-sol. I. Paper of improved degree of whiteness was obtained by coating with a mixt. of 2 g I and 80 g degraded starch in H₂O.

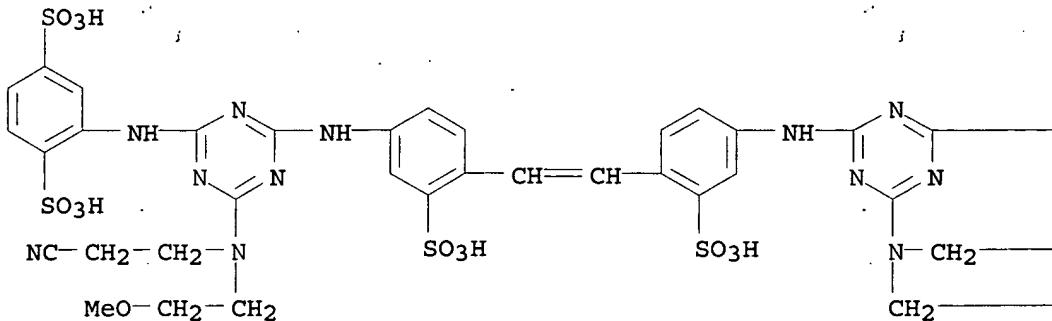
IT 53460-08-5P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 53460-08-5 HCPLUS

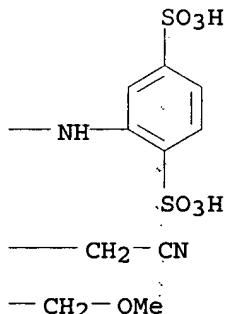
CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(2-cyanoethyl)(2-methoxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

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●6 Na

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IC C07D
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 Section cross-reference(s): 43
 ST fluorescent whitener stilbene;
 triazinylaminostilbene fluorescent whitener;
 paper fluorescent whitener
 IT Fluorescent brighteners
 (bis[(diaminotriazinyl)amino]stilbenedisulfonic acid deriv., for
 paper)
 IT Paper
 (fluorescent brighteners for,
 bis[(diaminotriazinyl)amino]stilbenedisulfonic acid deriv. as)
 IT 53460-08-5P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prep. of)

L46 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1973:467825 HCAPLUS
 DOCUMENT NUMBER: 79:67825
 TITLE: Bis(S-triazinylamino)stilbene fluorescent
 whiteners
 INVENTOR(S): Ackermann, Hans; Creutzburg, Gerhard

PATENT ASSIGNEE(S) : Ciba-Geigy Corp.
 SOURCE: U.S., 8 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3723425	A	19730327	US 1970-80484	197010 13
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PRIORITY APPLN. INFO.:			US 1970-80484	A 197010 13
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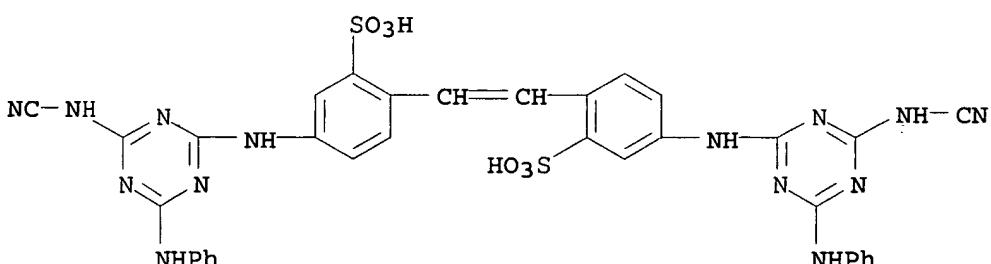
AB Fluorescent whiteners (I, R = Cl, PhNH, Et₂N, (HOCH₂CH₂)₂N, MeO, 2,5-(NaO₃S)C₆H₃NH, m-NaO₃SC₆H₄NH, X = Na, Me, Et, CH₂CH₂OH) were prep'd. and were used to whiten fabrics, paper, in detergent compns., and to whiten polyamide fibers by incorporation in the melt. Thus, cyanuric chloride was treated with 4,2-H₂N(HO₃S)C₆H₃CH:CHC₆H₃(SO₃H)NH₂-2,4 and the intermediate treated with Na₂CN to give fluorescent whitener I (R = Cl, X = Na) [32063-39-1]. The other I were similarly prep'd.

IT 33899-54-6P 33899-55-7P 33899-56-8P
 33899-58-0P 33899-59-1P 33953-22-9P
 33953-24-1P 33953-25-2P

RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

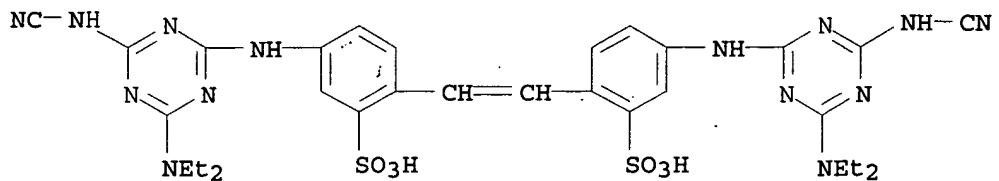
RN 33899-54-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(cyanoamino)-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI)
 (CA INDEX NAME)



●4 Na

RN 33899-55-7 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(cyanoamino)-6-(diethylamino)-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI)
 (CA INDEX NAME)

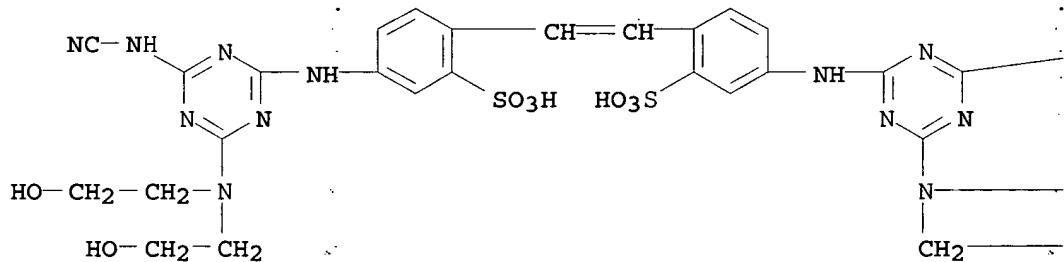


● 4 Na

RN 33899-56-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-(cyanoamino)-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

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● 4 Na

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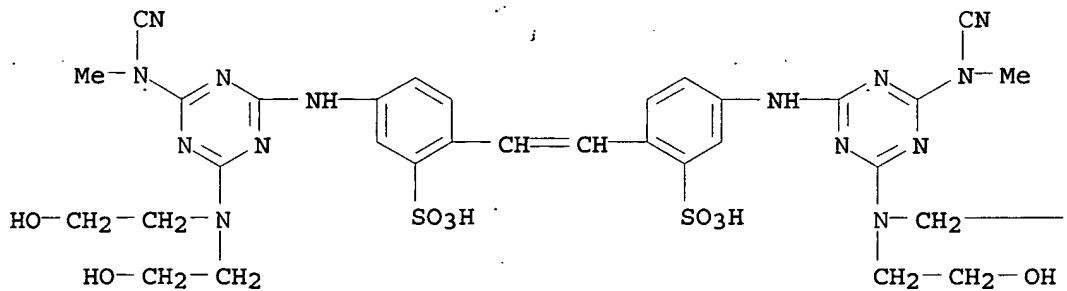
— NH— CN

— CH₂— CH₂— OH— CH₂— OH

RN 33899-58-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-(cyanomethylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

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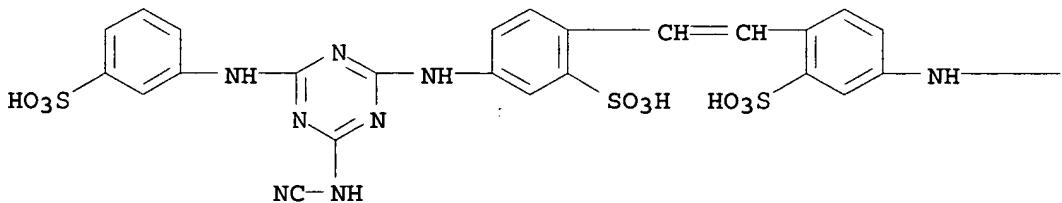
●2 Na

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—CH₂—OH

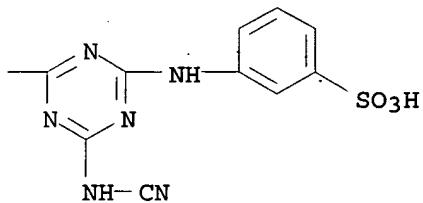
RN 33899-59-1 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(cyanoamino)-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, hexasodium salt
 (9CI) (CA INDEX NAME)

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●6 Na

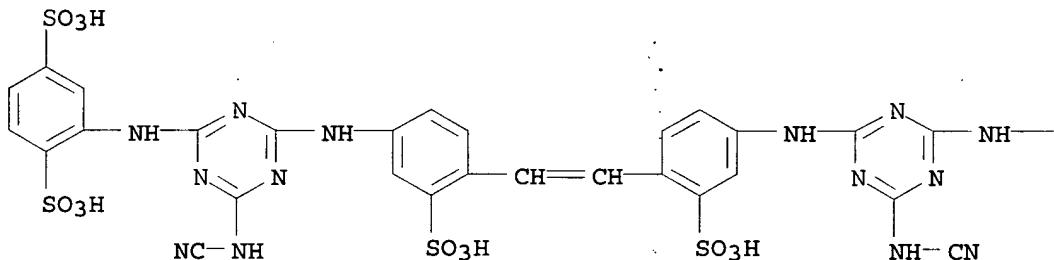
PAGE 1-B



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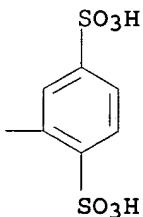
CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]6-(cyanoamino)-1,3,5-triazine-4,2-diyl)imino]bis-, octasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 8 Na

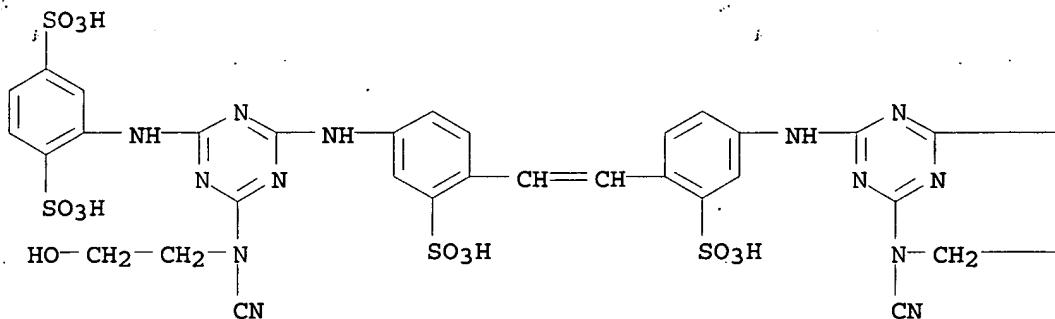
PAGE 1-B



RN 33953-24-1 HCPLUS

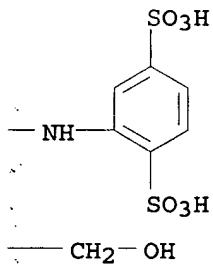
CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]6-[cyano(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl)imino]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

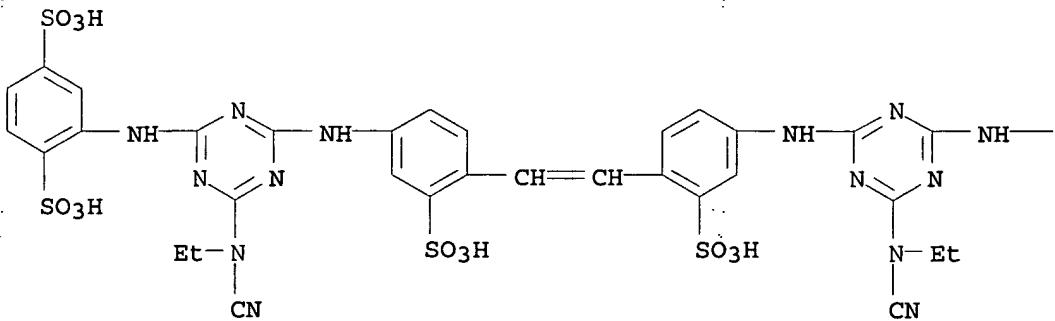
PAGE 1-B



RN 33953-25-2 HCPLUS

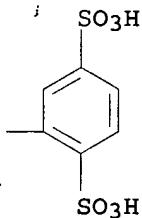
CN 1,4-Benzenedisulfonic acid, 2,2'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino][6-(cyanoethylamino)-1,3,5-triazine-4,2-diyl]imino]]bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

PAGE 1-B



IC C09D
 INCL 260240000B
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST fluorescent whitener stilbenedisulfonate;
 cyanoamino fluorescent whitener; triazine
 fluorescent whitener
 IT Fluorescent brighteners
 (bis[[cyanoamino]triazinyl]amino)stilbenedisulfonic acid deriv.,
 cotton, wool and paper pulp)
 IT Pulp, cellulose
 (fluorescent brighteners for,
 bis[[cyanoamino]triazinyl]amino)stilbenedisulfonic acid derivs.
 as)
 IT 32063-39-1P 33899-54-6P 33899-55-7P
 33899-56-8P 33899-57-9P 33899-58-0P
 33899-59-1P 33953-22-9P 33953-23-0P
 33953-24-1P 33953-25-2P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 19 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1972:503589 HCAPLUS
 DOCUMENT NUMBER: 77:103589
 TITLE: Clay-fluorescent whitener
 preparations for paper
 INVENTOR(S): Kissling, Bruno; Pummer, Helmut
 PATENT ASSIGNEE(S): Sandoz Ltd.
 SOURCE: Patentschrift (Switz.), 8 pp.
 CODEN: SWXXAS
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 522082	A	19720430	CH 1969-522082	196909 12
US 3684728	A	19720815	US 1970-71334	197009 11
GB 1294514	A	19721101	GB 1970-1294514	197009

PRIORITY APPLN. INFO.:

11

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CH 1969-13802 A 196909
12

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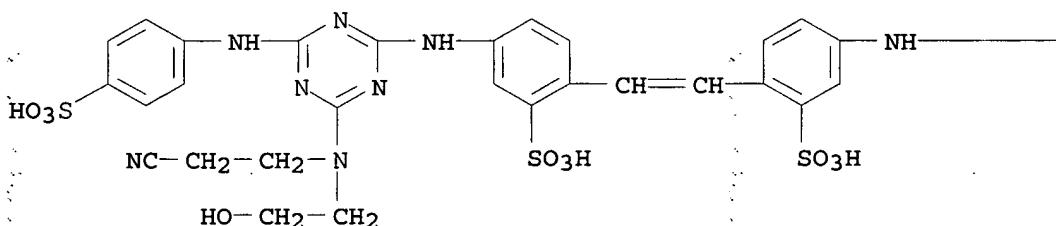
CH 1970-10733 A 197007
15

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AB Mixts. of an anionic fluorescent whitener, such as a substituted bis(triazinylamino)stilbenedisulfonate, and a poly(amide-amine), such as that prep'd. in Belg. 721,332, are added to kaolin and BaSO₄ which are then used as fillers for paper. The paper has better brightness than paper contg. fillers without a fluorescent whitener.

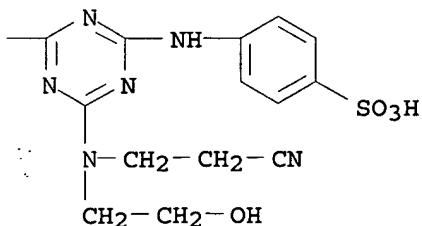
IT 37515-76-7RL: USES (Uses)
(fluorescent brighteners, contg. kaolin and poly(amide-amine), for paper)**RN** 37515-76-7 HCAPLUS**CN** Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-cyanoethyl)(2-hydroxyethyl)amino]-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B

**IC** D21H; C09C**CC** 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)**ST** fluorescent whitener kaolin paper; barium sulfate fluorescent whitener; brightness

paper fluorescent whitener; stilbene
 fluorescent whitener paper
 IT Polyamides, uses and miscellaneous
 RL: USES (Uses)
 (amino, fluorescent brighteners contg. kaolin
 and, for paper)
 IT Fluorescent brighteners
 (bis(triazinylamino)stilbenedisulfonate derivs., contg. kaolin
 and poly(amide-amine), for paper)
 IT Paper
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonate derivs. contg. kaolin and
 poly(amide-amine) as)
 IT Kaolin, uses and miscellaneous
 RL: USES (Uses)
 (fluorescent brighteners-contg., for paper)
 IT 13863-31-5 27344-06-5 37515-76-7 37515-77-8
 RL: USES (Uses)
 (fluorescent brighteners, contg. kaolin and
 poly(amide-amine), for paper)
 IT 7727-43-7
 RL: USES (Uses)
 (fluorescent brighteners-contg., for paper)

L46 ANSWER 20 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1972:476652 HCAPLUS
 DOCUMENT NUMBER: 77:76652
 TITLE: Polymeric dyes or fluorescent
 whitening agents
 INVENTOR(S): Horiguchi, Shojiro; Abe, Yoshio; Nakamura,
 Michie
 PATENT ASSIGNEE(S): Dainichiseika Color and Chemicals Manufg. Co.,
 Ltd.
 SOURCE: Jpn. Tokkyo Koho, 32 pp.
 CODEN: JAXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 47008460	B4	19720310	JP 1968-20694	196803 30

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AB Diazotized chromogens were mixed with monomers and polymd. in the presence of a diazo decompg. agent, e.g. TiCl₃, CuCl, powd. Cu, FeSO₄, NH₂OH, or Na₂SO₃. Thus, a 3:1 mixt. of 4-nitrophthalimide and phthalimide was condensed with CuCl, reduced, and the Cu aminophthalocyanine diazotized and added to an aq. emulsion of Me methacrylate [80-62-6]. Addn. of 5% aq. TiCl₃ over 1 hr caused polymn. at 33.deg.. The solid was repptd. from MeCOEt with aq. MeOH to give a polymeric dye for printing ink and plastics. Similarly, 2,4,6-tris[4-(p-aminobenzamido)anthraquinon-1-ylamino]-s-triazine, 7-aminocoumarin, and an aminoanilino stilbene fluorescent whitener were used as the amine. An amino group was introduced into oxazole, pyrazoline, naphthalimide, and anilinoanthracene fluorescent whiteners by

nitration and redn. Twenty-three polymers and copolymers were prep'd.

IT 37642-85-6

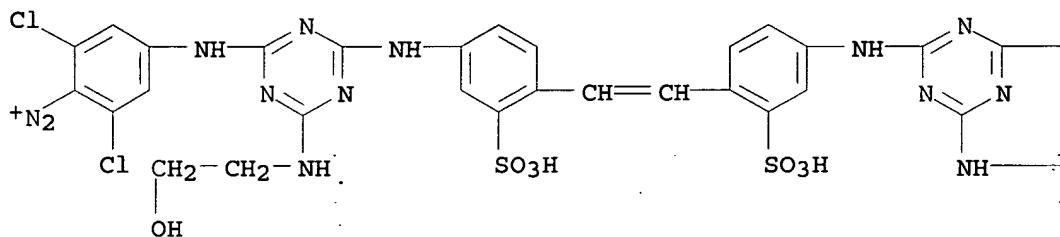
RL: USES (Uses)

(polymer modified by)

RN 37642-85-6 HCPLUS

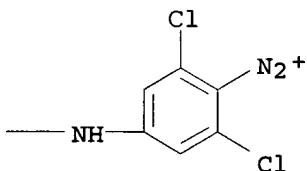
CN Benzenediazonium, 4,4'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]6-[(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl)imino]bis[2,6-dichloro-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



— CH₂—CH₂—OH

IC C09B; C08F

CC 40-1 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

Section cross-reference(s): 35, 36, 42

ST fluorescent whitener polymeric; dye polymeric; methacrylate polymeric dye; polymer dye fluorescent whitener; phthalocyanine polymeric dye

IT Dyes, reactive

Fluorescent brighteners

(Me methacrylate polymers modified by diazotized)

IT 9011-14-7

RL: USES (Uses)

(modified by diazotized dyes and diazotized fluorescent brighteners)

IT 37557-91-8 37597-67-4 37642-85-6

RL: USES (Uses)
(polymer modified by)

L46 ANSWER 21 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1971:499257 HCAPLUS
 DOCUMENT NUMBER: 75:99257
 TITLE: Stilbene compounds as fluorescent
whiteners
 INVENTOR(S): Balzer, Hans; Fleck, Fritz; Schmid, Hans Rudolf
 PATENT ASSIGNEE(S): Sandoz Ltd.
 SOURCE: Ger. Offen., 56 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2060085	A	19710616	DE 1970-2060085	197012 07
CH 529770	A	19721031	CH 1969-529770	196912 11
US 3757010	A	19730904	US 1970-95935	197012 07
ES 386268	A1	19740101	ES 1970-386268	197012 09
NL 7018032	A	19710615	NL 1970-18032	197012 10
FR 2073529	A5	19711001	FR 1970-44483	197012 10
GB 1299120	A	19721206	GB 1970-1299120	197012 10
JP 52007011	B4	19770226	JP 1970-110044	197012 10
ZA 7008379	A	19720726	ZA 1970-8379	197012 11
JP 49024127	B4	19740620	JP 1972-112819	197211 10
			<--	

PRIORITY APPLN. INFO.:

CH 1969-18425

A

196912
11

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GI For diagram(s), see printed CA Issue.

AB Triazinylaminostilbenes (I, R = H, CH₂CH₂CONH₂, R₁ = Ph, (CH₂)₃NET₂, R₂ = R₃ = Et or R₂R₃N = morpholino, R₄ = Ph, (CH₂)₃NET₂, O-C₆H₄Me) contg. tertiary amino groups, and optionally quaternized, were prep'd. for use as fluorescent whiteners which retained their whitening properties in the presence of cationic softeners. For example, cyanuric chloride was condensed with 4,4'-diaminostilbene-2,2'-disulfonic acid, the product condensed 1 hr with PhNH₂ in 10% NaOH at 40°, then condensed 5 hr with Et₂N(CH₂)₃NCH₂CH₂CONH₂ in 10% NaOH at 95-100°, giving di-Na 4,4'-bis[[6-anilino-4-[N-[3-(diethylamino)propyl]-N-(2-carbamoyethyl)amino]triazin-2-yl]amino]stilbene-2,2'-disulfonate (I, R = H, R₁ = R₄ = Ph, R₂ = R₃ = Et) which gave a whiteness value 80.5 when used in a softening compn. for bleached cotton fabric, compared to a value of 69 for a com. fluorescent whitener used similarly. Four other I were prep'd.

IT 32892-88-9P 33763-21-2P 33763-22-3P

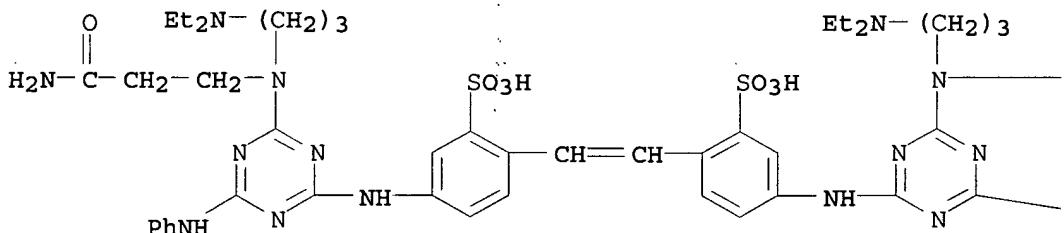
33799-89-2P 33909-80-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 32892-88-9 HCPLUS

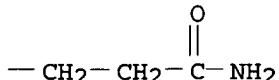
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino], disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

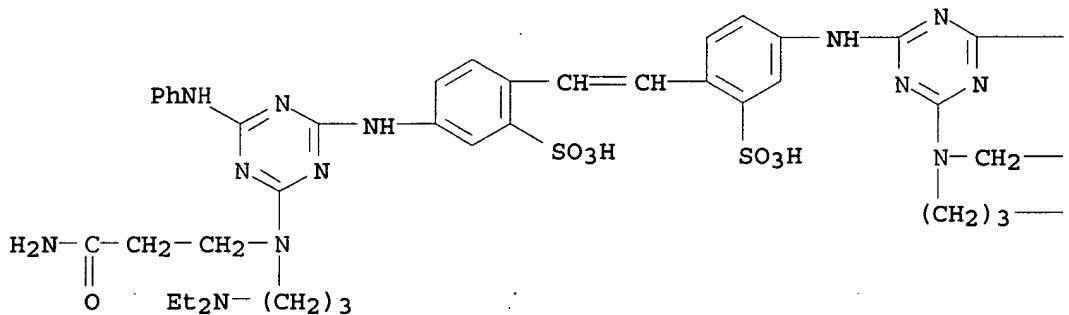


—NHPh

RN 33763-21-2 HCAPLUS

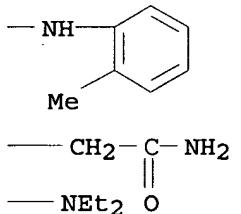
CN Benzenesulfonic acid, 5-[[4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-6-[(2-methylphenyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-[(4-[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino)-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

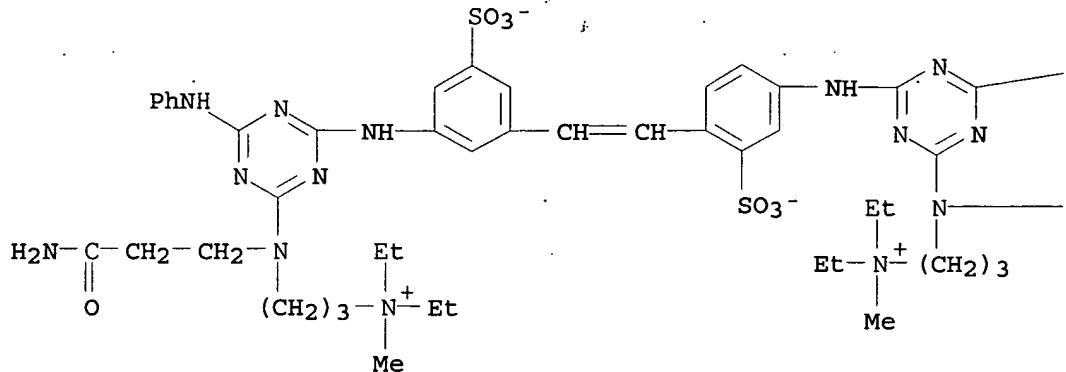
PAGE 1-B



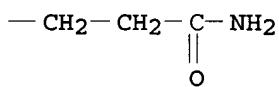
RN 33763-22-3 HCAPLUS

CN 1-Propanaminium, 3,3'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino][6-(phenylamino)-1,3,5-triazine-4,2-diyl][(3-amino-3-oxopropyl)imino]]bis[N,N-diethyl-N-methyl-, bis(inner salt) (9CI) (CA INDEX NAME)]

PAGE 1-A



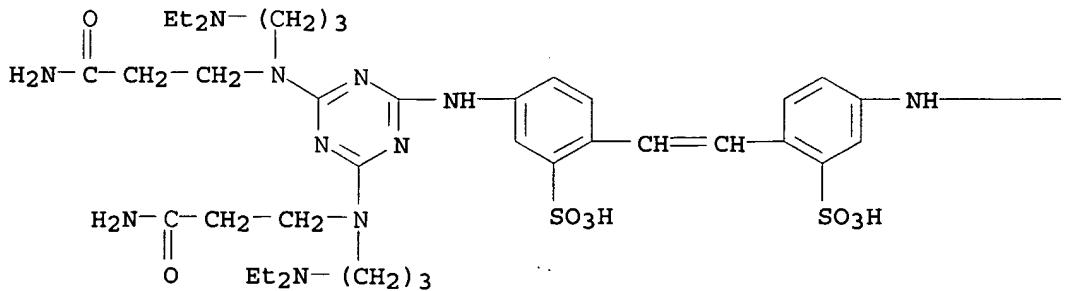
PAGE 1-B

—NHPh

RN 33799-89-2 HCAPLUS

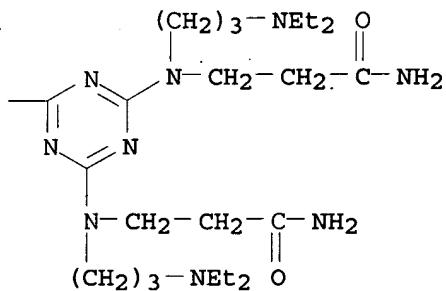
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4,6-bis[(3-amino-3-oxopropyl)[3-(diethylamino)propyl]amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

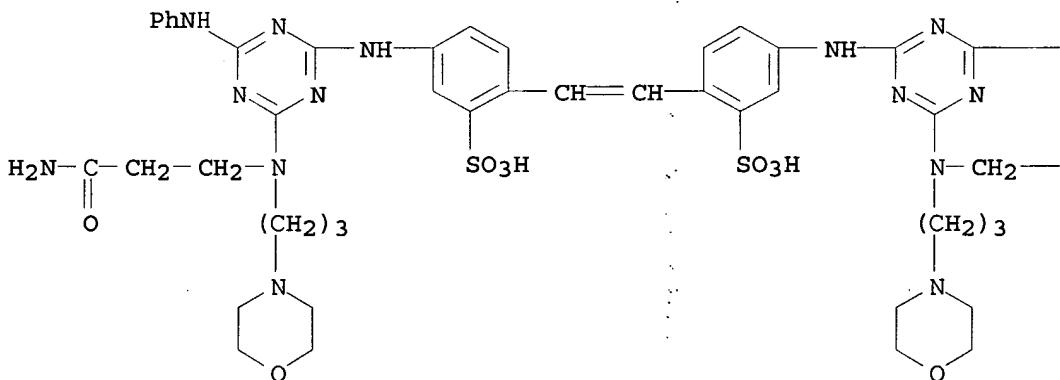
PAGE 1-B



RN 33909-80-7 HCPLUS

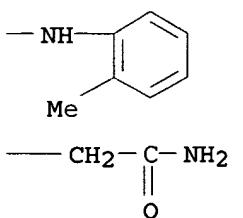
CN Benzenesulfonic acid, 5-[[4-[(3-amino-3-oxopropyl)[3-(4-morpholinyl)propyl]amino]-6-[(2-methylphenyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-[(3-amino-3-oxopropyl)[3-(4-morpholinyl)propyl]amino]-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IC C07D

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST triazine aminostilbene fluorescent whitener;
 stilbene triazinylamino fluorescent whitener;
 softener compatible fluorescent whitener;
 aminostilbene fluorescent whitener
 IT Fluorescent brightening agents
 (bis(triazinylamino)stilbenedisulfonic acid derivs., cotton)
 IT 32892-88-9P 33763-21-2P 33763-22-3P
 33799-89-2P 33909-80-7P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 22 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1969:38907 HCPLUS
 DOCUMENT NUMBER: 70:38907
 TITLE: Substituted 4,4'-bis(triazinylamino)stilbenes
 PATENT ASSIGNEE(S): Geigy, J. R., A.-G.
 SOURCE: Brit., 6 pp.
 CODEN: BRXXAA
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1129548	-----	19681009	GB 1967-29800	196706 28
CH 474601	CH			<--
FR 1529366	FR			
US 3546218	US	19701208		196606 29
US 3676339	US	19720711		<-- 197004 16
PRIORITY APPLN. INFO.:	US			<-- 196606 29

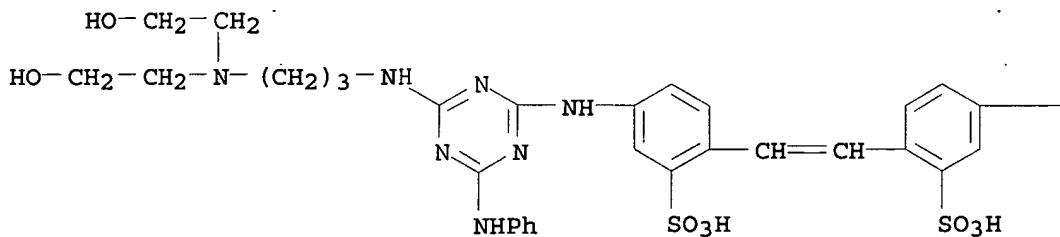
GI For diagram(s), see printed CA Issue.
 AB I, where X is Y(CH₂)₃NH (Q), are fluorescent
 whitening agents. Thus, 71 g. (HOCH₂CH₂)₂NCH₂CH₂CH₂NH₂ (II)
 was added with stirring to a slurry of 150 g. I (X = Cl, R = H)
 (III) in 1200 ml. H₂O, the mixt. heated to 90°, the
 pH, which decreased to 9.5-10, maintained at 10.5-11 by adding 16 g.
 50% NaOH, the mixt. cooled to room temp., the mother
 liquor decanted, 1200 ml. H₂O and 300 g. NaCl added, the solids
 ground in a wet slurry with 400 ml. 25% aq. NaCl, acidified to pH 2
 with 37% HCl, filtered, washed acid-free and vacuum-dried to give
 120 g. light yellow I[X = Q, Y = (HOCH₂CH₂)₂N (Z), R = H].
 Similarly, other I (X = Q) were prep'd. (Y and R given): Z, SO₃H;
 Me₂N, H; morpholino, NMeCH₂CH₂CH₂NH₂, H.
 IT 19523-47-8P 19523-49-0P 19643-44-8P
 20982-06-3P 20982-10-9P 22301-97-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

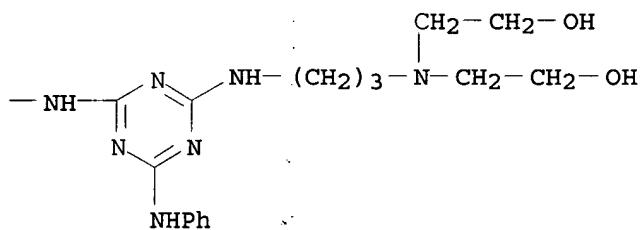
RN 19523-47-8 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



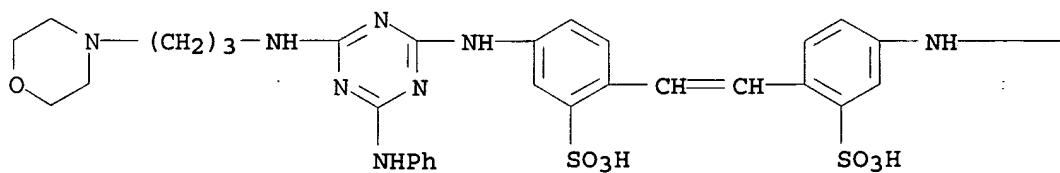
PAGE 1-B



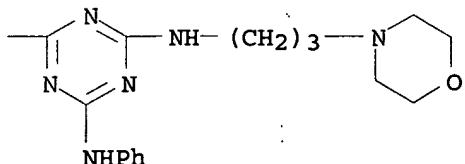
RN 19523-49-0 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



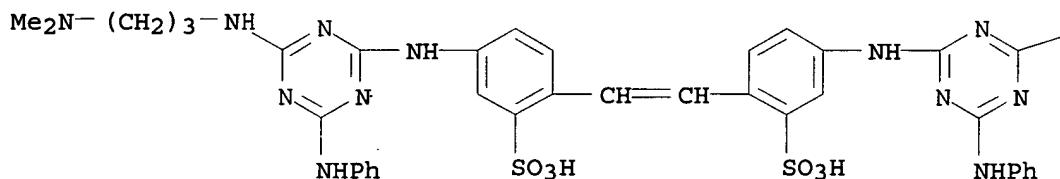
PAGE 1-B



RN 19643-44-8 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[(3-(dimethylamino)propyl]amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



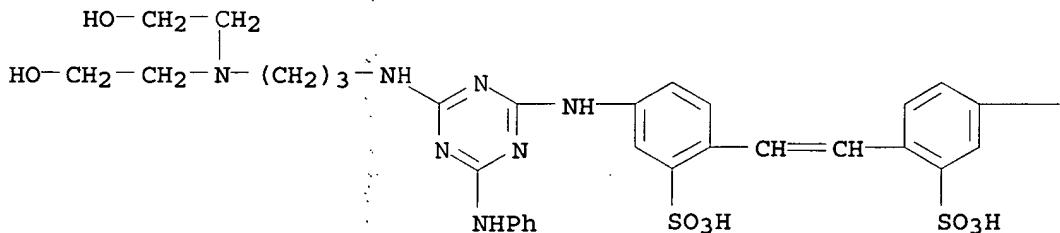
PAGE 1-B

$\text{--NH--}(\text{CH}_2)_3\text{--NMe}_2$

RN 20982-06-3 HCPLUS

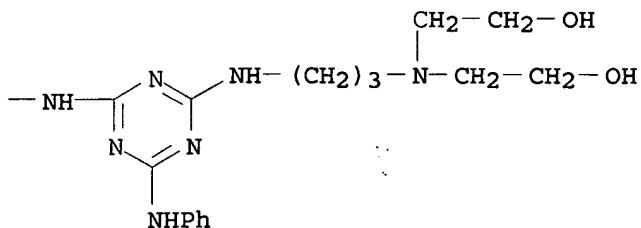
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[(3-[bis(2-hydroxyethyl)aminopropyl]amino)-s-triazin-2-yl]amino]-, disodium salt (8CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

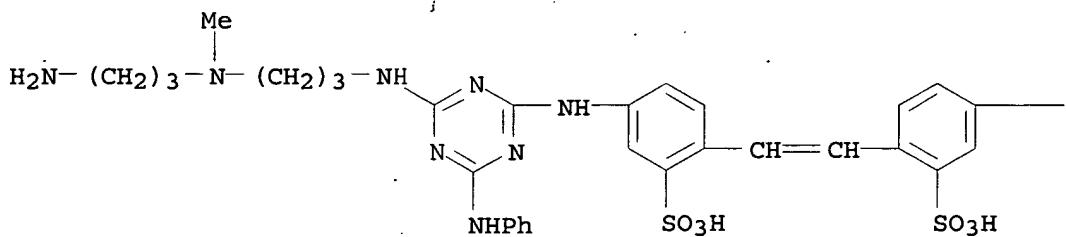
PAGE 1-B



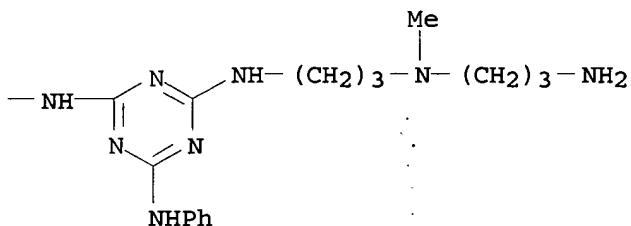
RN 20982-10-9 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[(3-aminopropyl)methylamino]propyl]amino]-6-anilino-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 22301-97-9 HCPLUS

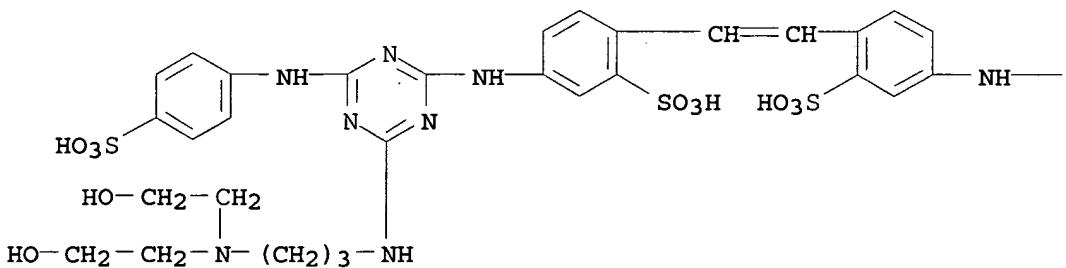
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[bis(2-hydroxyethyl)amino]propyl]amino]-6-(p-sulfoanilino)-s-triazin-2-yl]amino]-, compd. with 2,2',2'''-nitrilotriethanol (8CI) (CA INDEX NAME)

CM 1

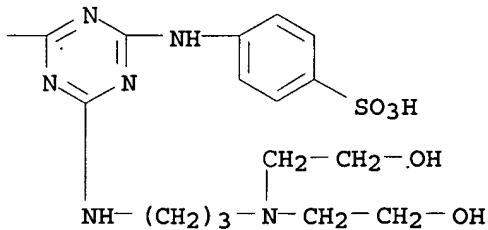
CRN 19523-48-9

CMF C46 H58 N14 O16 S4

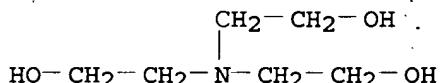
PAGE 1-A



PAGE 1-B



CM 2

CRN 102-71-6
CMF C6 H15 N O3

IC C07D
 CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)
 ST triazines stilbenes dyes; stilbenes triazines dyes; dyes triazines
 stilbenes; fluorescent whitening agents;
 whitening agents triazines stilbenes
 IT Fluorescent brightening agents
 (4,4'-bis[(s-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid
 derivs., for cotton)
 IT 19523-47-8P 19523-49-0P 19643-44-8P
 20982-06-3P 20982-10-9P 22301-97-9P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 23 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1968:31050 HCPLUS
 DOCUMENT NUMBER: 68:31050
 TITLE: Stilbene optical brighteners
 INVENTOR(S): Roussos, Michel; Dutheil, Jacques
 PATENT ASSIGNEE(S): Societe de Produits Chimiques et de Synthese
 SOURCE: Fr., 3 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 1479540		19670505	FR	196603 25

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GI For diagram(s), see printed CA Issue.

AB Compds. of the formula I, useful as optical brighteners for cellulose and polyamide fibers, were prep'd. Thus, 320 g. ice and a soln. of 37 g. [4,2-H2N(NaO3S)C6H3CH:]2 in 320 cc. H2O were added at 5° to a soln. of 39.5 g. cyanuric chloride in 250 cc. Me2CO, the mixt. stirred at 8-10° for 1 hr., neutralized with NaOH, treated with 38 g. 4-H2NC6H4SO2NH2, heated at 35° for 150 min. while maintaining pH 6-7 with 30% NaOH, 31.6 g. N-(3-aminopropyl)morpholine and 18.5 g. NaHCO3 added, heated to 90-5°, Me2CO distd., the mixt. heated to 125° for 3 hrs., added to 1 l. H2O at 90°, and acidified (pH 4) with HCl to give I (X = 4-NHC6H4SO2NH2), E1%1 cm. = 480 at 350 m μ (50% EtOH). Similarly, the following I were prep'd. (X, λ_{max} . in m μ and E1%1 cm. given): 4-NHC6H4CO2H, 347, 460; 4-NHC6H4SO2CH2CH2OH, 350, 400; NHMe, 348, 550; OMe, 345, 470; N(CH2CH2OH)2, 350, 450.

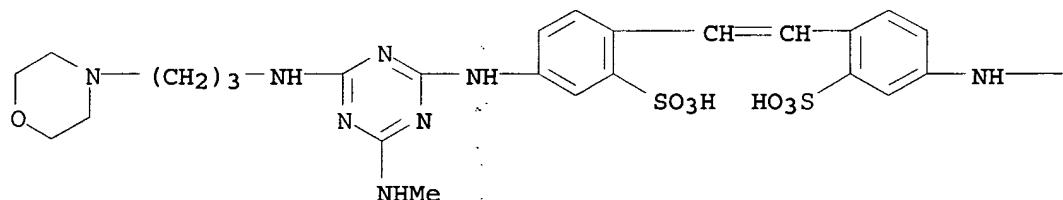
IT 17121-40-3P 17121-42-5P 17139-46-7P
17139-47-8P 17233-75-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prep'n. of)

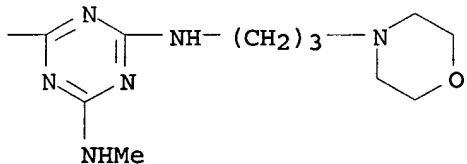
RN 17121-40-3 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(methylamino)-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



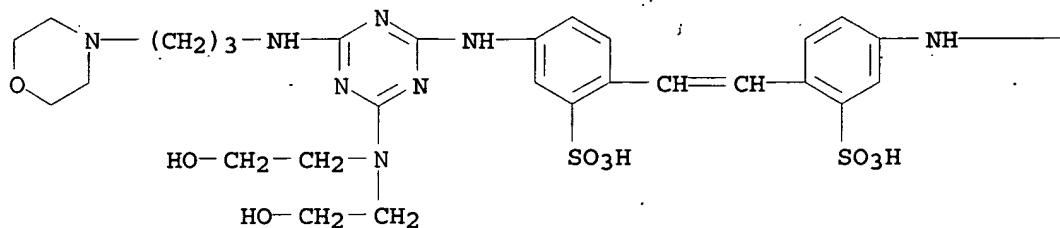
PAGE 1-B



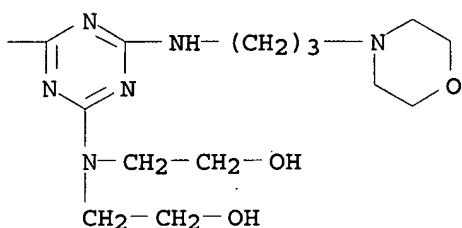
RN 17121-42-5 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



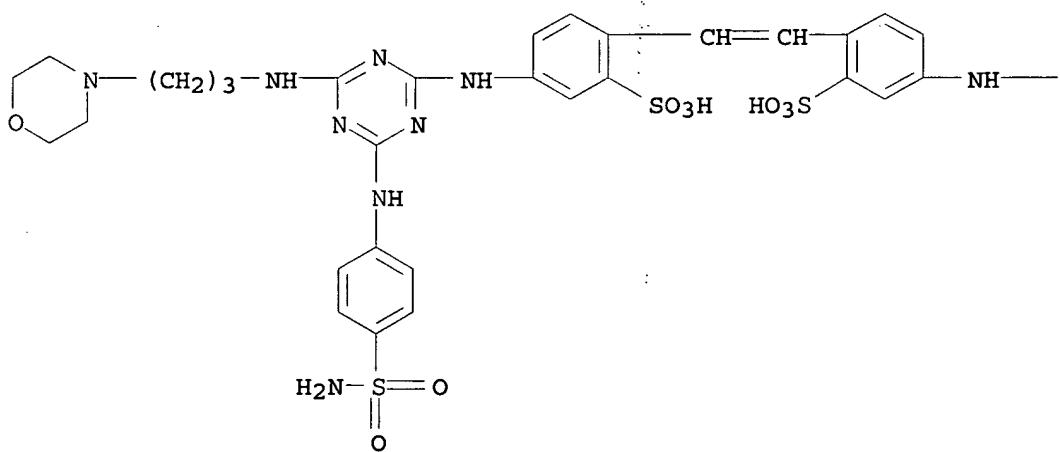
PAGE 1-B



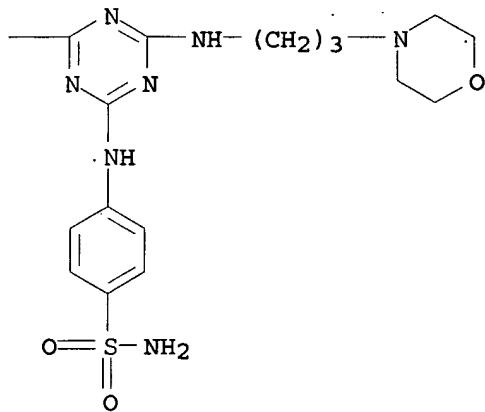
RN 17139-46-7 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(3-morpholinopropyl)amino]-6-(p-sulfamoylanilino)-s-triazin-2-yl]amino]-
(8CI) (CA INDEX NAME)

PAGE 1-A



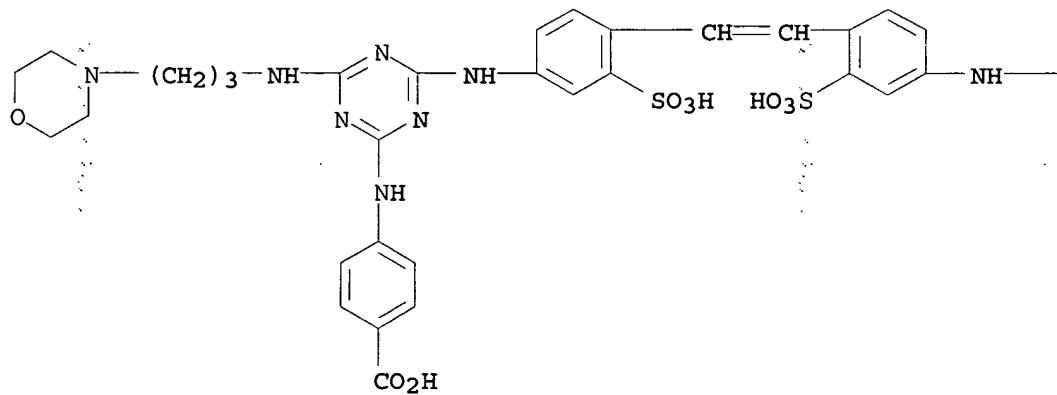
PAGE 1-B



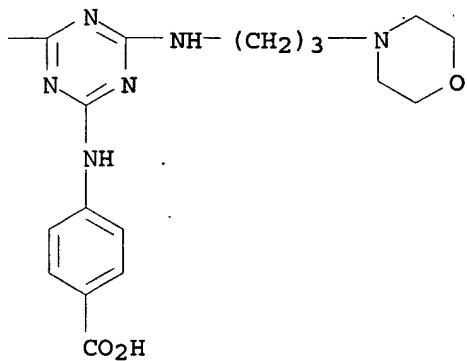
RN 17139-47-8 HCPLUS

CN Benzoic acid, 4,4'-[vinylenebis[(3-sulfo-p-phenylene)imino[6-[(3-morpholinopropyl)amino]-s-triazine-4,2-diyl]imino]]di- (8CI) (CA INDEX NAME)

PAGE 1-A



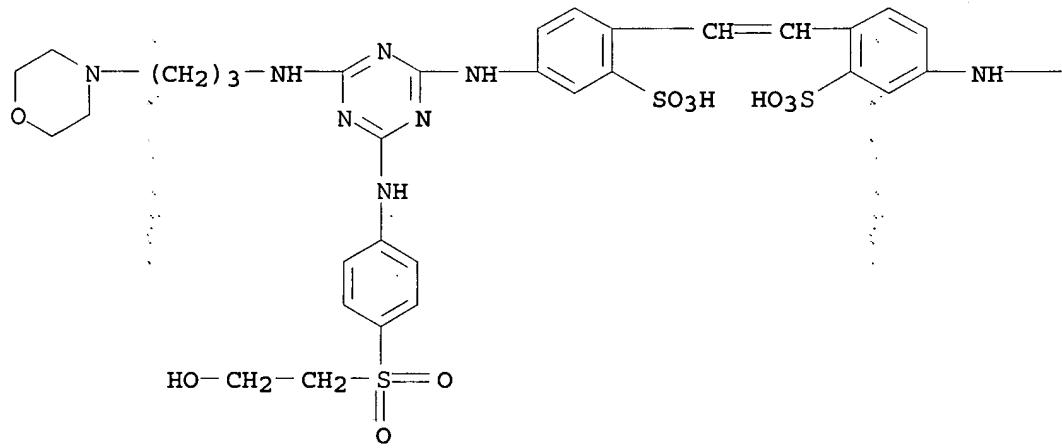
PAGE 1-B



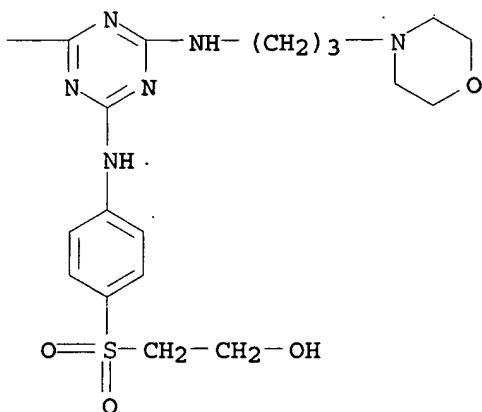
RN 17233-75-9 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[p-[(2-hydroxyethyl)sulfonyl]anilino]-6-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC C09B
 CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)
 ST OPTICAL BRIGHTENERS STILBENE; NYLON BRIGHTENERS;
 FLUORESCENT BRIGHTENERS; CELLULOSE
 BRIGHTENERS; STILBENE OPTICAL BRIGHTENERS;
 POLYAMIDE BRIGHTENERS
 IT Fluorescent brightening agents
 (4,4'-bis[[4-[(3-morpholinopropyl)amino]-s-triazin-2-yl]amino]-
 2,2'-stilbenedisulfonic acid derivs. as)
 IT Fluorescent brightening agents
 RL: USES (Uses)
 (bis(morpholinopropylamino)-(triazinylamino)stilbenedisulfonic
 acid derivs.)
 IT 17121-40-3P 17121-41-4P 17121-42-5P
 17139-46-7P 17139-47-8P 17233-75-9P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L46 ANSWER 24 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1966:482795 HCAPLUS
 DOCUMENT NUMBER: 65:82795
 ORIGINAL REFERENCE NO.: 65:15542a-d
 TITLE: Polymers with permanently built-in
 fluorescent compounds
 PATENT ASSIGNEE(S): Dainichiseika Color & Chemicals Manuf. Co., Ltd.
 SOURCE: 17 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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NL 6516713		19660623	NL 1965-16713	196512 22

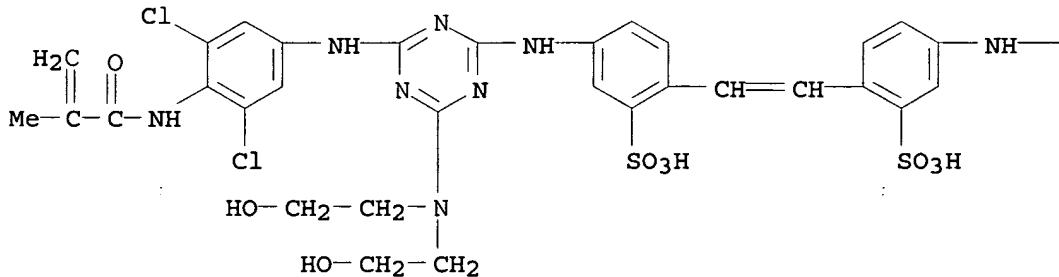
PRIORITY APPLN. INFO.: JP <--

196412
22

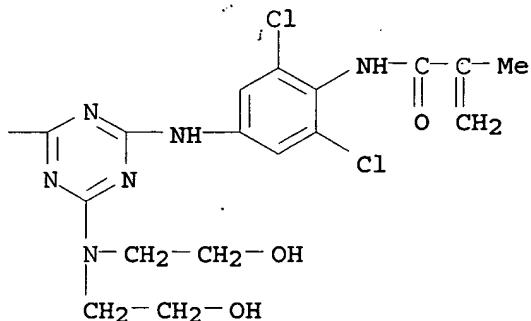
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- GI For diagram(s), see printed CA Issue.
 AB Fading and extn. with H₂O are well known disadvantages of fluorescent compds. If a fluorescent compd. contg. a free radical is polymd. with one or more of the usual monomers, the polymer with the built-in fluorescent compd. does not have these disadvantages. This polymer can also be used for reaction with other free radicals contg. substances such as precondensed thermosetting resins. Thus, 10 g. Na diamino-stilbenedisulfonic acid was dispersed in 90 g. acetone and 7.5 g. pyridine added. After 30 min. 10.5 g. methacryloyl chloride was added at 5-10° and the mixt. stirred for 2 h. to 17 g. (I). To 100 g. H₂O 10 g. I, 30 g. acrylamide, and 0.4 g. K₂S₂O₈ were added and the soln. was kept at 70° 3 h. The polymer was pptd. with MeOH, redissolved in 300 g. H₂O, and the pH adjusted to 9-9.5 with 5% aq. Na₂CO₃. This polymer soln. was added to 40 g. HCHO and then methylated at 60° 30 min. This soln. was used to impregnate fabrics, paper, etc., which were heat treated. A permanent fluorescent character was obtained.
- IT 13941-13-4, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-(3,5-dichloro-4-methacrylamidoanilino)-s-triazin-2-yl]amino]-
 (polymn. of, with acrylates, olefins, vinyl compds., etc., and
 permanently fluorescent polymers therefrom)
- RN 13941-13-4 HCPLUS
- CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-(3,5-dichloro-4-methacrylamidoanilino)-s-triazin-2-yl]amino]-
 (7CI, 8CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



- IC C08F
 CC 45 (Synthetic High Polymers)
 IT Polymers
 (fluorescent)
 IT Fluorescent substances
 (homopolymer)
 IT Polymerization
 (of fluorescent compds. with acrylates, olefins, vinyl
 compds., etc.)
 IT Methacrylic acid, 3-ester with 7-[(2,3-dihydroxypropyl)amino]coumarin, polymer with acrylate
 (olefins, etc., to fluorescent polymers)
 IT 1,2-Propanediol, 3-chloro-, 1-acrylate, homopolymer
 1,2-Propanediol, 3-chloro-, 1-methacrylate, homopolymer
 Methacrylamide, polymer with 2-ethylhexyl methacrylate
 Methacrylic acid, 3-chloro-2-hydroxypropyl ester, homopolymer
 Vinyl acetate, polymer with Et vinyl oxalate
 (with fluorescent compds.)
 IT 27056-93-5, Acrylic acid, butyl ester, polymer with vinyl propionate
 (Bu ester polymn., with fluorescent compds.)
 IT 107-25-5, Ether, methyl vinyl
 (ethyldifluoroaluminum as catalyst in, with fluorescent
 compds.)
 IT 79-10-7, Acrylic acid
 (polymn. of (and acrylic acid derivs.), with fluorescent
 compds.)
 IT 13544-69-9, Coumarin, 7-[(2,3-dihydroxypropyl)amino]-,
 3-methacrylate 13544-70-2, Acrylamide, N-[2,3-dihydro-1,3-dioxo-2-(2,4-xylyl)-1H-benz[de]isoquinolin-6-yl]-2-methyl- 13544-71-3,
 Acrylamide, N-(11-methoxy-7-oxo-7H-benzimidazo[2,1-a]benz[de]isoquinolin-4-yl)-2-methyl- 13941-12-3,
 2,2'-Stilbenedisulfonic acid, 4,4'-dimethacrylamido-
 13941-13-4, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-(3,5-dichloro-4-methacrylamidoanilino)-s-triazin-2-yl]amino]- 15607-26-8,
 Succinanilic acid, 3-methylene-4'-(2-oxo-2H-naphtho[1,2-b]pyran-3-yl)- 15607-27-9, Acrylanilide, 4',4'''-(9,10-anthrylenedimino)bis[2-methyl- 30346-83-9, Acrylamide, N-(5,11-dihydro-5,11-dioxodibenzo[b, tuv]-naphtho[2,1-m]picenyl)- 30346-84-0, Acrylamide, N-(8,16-dihydro-8,16-dioxopyranthrenyl)-2-methyl-
 (polymn. of, with acrylates, olefins, vinyl compds., etc., and
 permanently fluorescent polymers therefrom)
 IT 75-01-4, Ethylene, chloro- 75-35-4, Ethylene, 1,1-dichloro-

78-79-5, Isoprene 78-94-4, 3-Buten-2-one 79-06-1, Acrylamide
 80-62-6, Methyl methacrylate 88-12-0, 2-Pyrrolidinone, 1-vinyl-
 100-42-5, Styrene 106-92-3, Propane, 1-(allyloxy)-2,3-epoxy-
 106-99-0, 1,3-Butadiene 107-13-1, Acrylonitrile 115-11-7,
 Propene, 2-methyl- (isobutylene) 126-99-8, 1,3-Butadiene,
 2-chloro- 556-52-5, 1-Propanol, 2,3-epoxy- 814-68-6, Acryloyl
 chloride 923-02-4, Acrylamide, N-(hydroxymethyl)-2-methyl-
 924-42-5, Acrylamide, N-(hydroxymethyl)- 1337-81-1, Pyridine,
 vinyl- 2499-59-4, Acrylic acid, octyl ester 3194-70-5,
 s-Triazine, 2,4-diamino-6-vinyl- 3326-90-7, Acrylic acid,
 3-chloro-2-hydroxypropyl ester 13370-08-6, Urea, vinyl-
 13544-74-6, Methanol, [(6-vinyl-s-triazine-2,4-
 diyl)bis(methylimino)]di- 13544-75-7, Acrylamide,
 N-butyl-N-(hydroxymethyl)- 13941-15-6, Methanol,
 [(6-vinyl-s-triazine-2,4-diyl)bis(butylimino)]di-
 (polymn. of, with fluorescent compds.)
 IT 106-90-1, Acrylic acid, 2,3-epoxypropyl ester
 (polymn. with fluorescent compds.)
 IT 96-33-3, Acrylic acid, methyl ester 140-88-5, Acrylic acid, ethyl
 ester
 (polymn., with fluorescent compds.)
 IT 26937-45-1, Methacryloyl chloride, homopolymer 113889-78-4,
 Methacrylic acid, block polymer with Me methacrylate 790672-07-0,
 Methacrylic acid, polymer with Et vinyl sulfone
 (with fluorescent compds.)

L46 ANSWER 25 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:416107 HCAPLUS

DOCUMENT NUMBER: 59:16107

ORIGINAL REFERENCE NO.: 59:2977e-f,2978a-f

TITLE: p,p'-Diaminostilbene optical bleaching agents

INVENTOR(S): Frey, Raymond

PATENT ASSIGNEE(S): Compagnie Francaise des Matieres Colorantes

SOURCE: 7 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3045013	19620717	US
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GB 923122	GB
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PRIORITY APPLN. INFO.:	FR	195806
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GI For diagram(s), see printed CA Issue.

AB [4,2-H₂(NaO₃S)C₆H₃CH:]₂ (I) is condensed with the condensation products of NH₃ or Na₂S, cyanuric chloride or bromide, amines, and phenols to give compds. of the general formula II, where Z is a divalent S, NH, or NH(CH₂)₂NH radical, X is morpholino, OH, PhO, or NH(CH₂)₂OH, W is morpholino or PhNH, and Y is morpholino, PhNH, or o-ClC₆H₄O. II are optical bleaching agents stable to oxidn. and useful in detergents and washing powders. Thus, a soln. of cyanuric chloride (III) 370 in Me₂CO 1110 is added to a neutral soln. of I 414 parts at 0-5°, the mixt. being kept weakly acidic by the addn. of 10% Na₂CO₃. The mixt. is heated at 30°, 170 parts 20% NH₃ is added, the mixt. is

neutralized with 10% Na₂CO₃, and cooled to 0-5°. A soln. of III 370 in Me₂CO 1110 parts is added slowly with stirring at pH 5.5-6.6 (10% Na₂CO₃), and a suspension of 859 parts II (Z = NH, W = X = Cl) is obtained. PhNH₂.HCl (518 parts) is added, the mixt. is heated at 40° and kept weakly acidic by the addn. of 4240 parts 10% Na₂CO₃, agitated until the free PhNH₂ disappears, made alk. with 1060 parts 10% Na₂CO₃, heated at 90°, and stirred until the pH becomes neutral, and salted with 15% NaCl to give II (Z = NH, X = OH, W = Y = PhNH), a light yellow powder. Similarly prep'd. are II (Z, X, Y, W, and appearance given): NH, NH(CH₂)₂OH, PhNH, PhNH, light yellow, NH, NH(CH₂)₂OH, morpholino, morpholino, light yellow, NH, OH, morpholino, morpholino, -; NH, morpholino, morpholino, morpholino, greenish yellow; NH(CH₂)₂NH, OH, morpholino, morpholino, faintly yellow; NH, PhO, morpholino, morpholino, slightly yellow; S, OH, morpholino, morpholino, light yellow. Also prep'd. are IV and V. Washing powder 1000 contg. Na dodecylbenzenesulfonate 100, Na₂CO₃ 600, Na polyphosphate 280, and carboxymethyl cellulose 20 parts, is mixed with 1 part II [Z = NH, X = NH(CH₂)₂OH, W = Y = PhNH], and cotton fabric is kept in a 1: 10 bath contg. 50 g. prep'd. mixt. per l. at the b.p. for 30 min. to give fabric with increased whiteness.

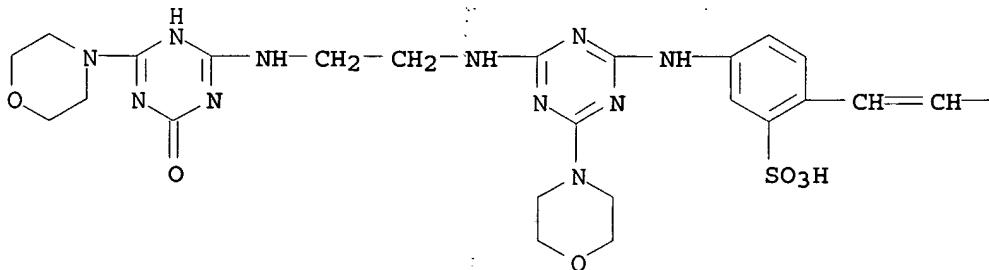
IT 106884-61-1, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[2-[(4-hydroxy-6-morpholino-s-triazin-2-yl)amino]ethyl]amino]-6-morpholino-s-triazin-2-yl]amino] -, disodium salt

(prep'n. of)

RN 106884-61-1 HCPLUS

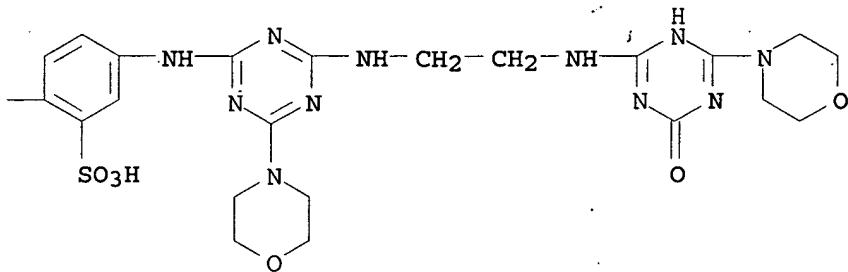
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[2-[(4-hydroxy-6-morpholino-s-triazin-2-yl)amino]ethyl]amino]-6-morpholino-s-triazin-2-yl]amino] -, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



INCL 260240000

CC 46 (Dyes)

IT Cleaning compositions

(bleaching agents (fluorescent or optical) for,
4,4'-bis[[(triazinyl amino)triazinyl]amino]-2,2'-stilbene
disulfonic acid derivs. as)

IT Bleaching agents

(fluorescent or optical, 4,4'-
bis[[(triazinylamino)triazinyl]amino]-2,2'-stilbenedisulfonic
acid derivs. as, for cotton and detergents)

IT 89381-74-8, Triazine, 2,2'-iminobis[4-chloro-6-morpholino-
89417-05-0, s-Triazine, 2,2'-thiobis[4,6-dichloro- 93657-60-4,
s-Triazine, 4-anilino-4'-phenoxy-2,2'-thiobis[6-chloro-
100154-95-8, s-Triazine, 4-(o-chlorophenoxy)-4'-(N-methylanilino)-
2,2'-iminobis[6-chloro- 101955-81-1, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(4,6-dichloro-s-triazin-2-yl)amino]-s-triazin-
2-yl]amino]- 106322-22-9, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-[(4-hydroxy-6-morpholino-s-triazin-2-yl)amino]-6-
morpholino-s-triazin-2-yl]aminol-, disodium salt 106385-15-3,
2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(4-hydroxy-6-morpholino-s-
triazin-2-yl)thio]-6-morpholino-s-triazin-2-yl]amino]-, disodium
salt 106408-38-2, 2,2'-Stilbenedisulfonic acid,
4-o-anisamido-4'-[[4-[(4-(o-chlorophenoxy)-6-morpholino-s-triazin-2-
yl)amino-6-morpholino-s-triazin-2-yl]amino]-, disodium salt
106628-35-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(4,6-
dimorpholino-s-triazin-2-yl)amino]-6-morpholino-s-triazin-2-yl]-
amino]-, disodium salt 106631-81-6, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-anilino-6-[(4-anilino-6-hydroxy-s-triazin-2-yl)amino]-s-
triazin-2-yl]amino]-, disodium salt 106884-61-1,
2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-[(4-hydroxy-6-
morpholino-s-triazin-2-yl)amino]ethyl)amino]-6-morpholino-s-triazin-
2-yl]amino]-, disodium salt 106906-37-0, 2,2'-Stilbenedisulfonic
acid, 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-morpholino-s-triazin-
2-yl]amino]-6-morpholino-s-triazin-2-yl]amino]-, disodium salt
106978-52-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-morpholino-6-
[(4-morpholino-6-phenoxy-s-triazin-2-yl)amino]-s-triazin-2-yl]amino]-
, disodium salt 106991-37-1, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-anilino-6-[(4-anilino-6-[(2-hydroxyethyl)amino]-s-
triazin-2-yl)amino]-s-triazin-2-yl]amino]-, disodium salt
107660-31-1, 2,2'-Stilbenedisulfonic acid, 4,4'-[[iminobis[6-[bis(2-
hydroxyethyl)amino]-s-triazine-4,2-diyl]imino]]bis[4'-benzamido-
(prep. of)

L46 ANSWER 26 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:82271 HCAPLUS

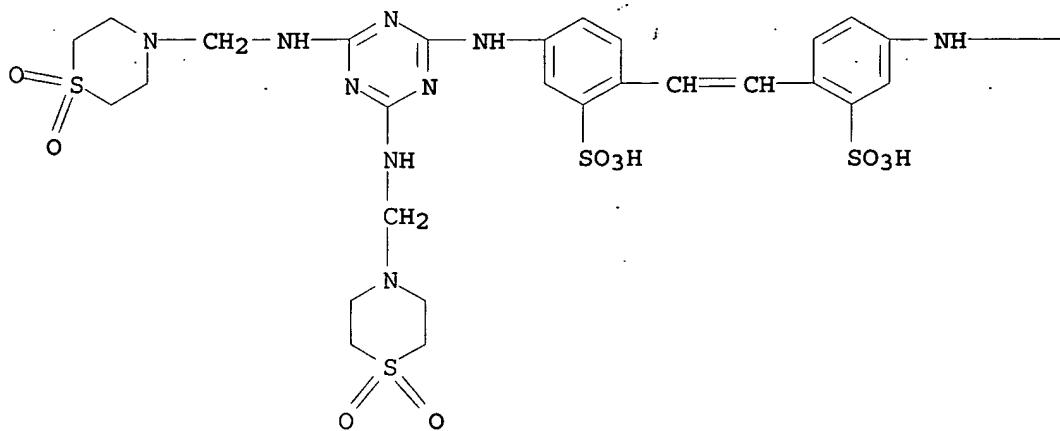
DOCUMENT NUMBER: 58:82271

ORIGINAL REFERENCE NO.: 58:14164c-f
 TITLE: Bis(triazinylamino)stilbenesulfonic acid
 brightening agents
 INVENTOR(S): Gehn, Robert; Schmidt, Oswald; Mertens,
 Heinrich; Grünwald, Wolfgang; Hehl, Manfred
 PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik AG
 SOURCE: 8 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 908229		19621017	GB 1960-2193	196001 21
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PRIORITY APPLN. INFO.:		DE		195901 24
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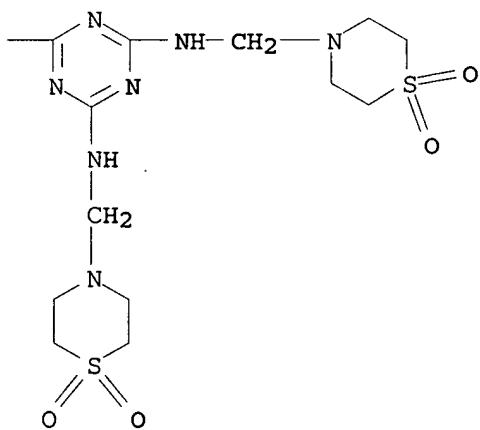
- GI For diagram(s), see printed CA Issue.
 AB Brightening agents whose fluorescence is almost unimpaired by precondensates of thermosetting resins are prep'd. having the general formula I, where X is NHC₂H₄OH or 1-aza-4,4-dioxo-4-thiacyclohex-1-yl. Thus, a soln. of 1-aza-4-thiacyclohexane 4,4-dioxide (II) 27 and Na₂CO₃ 10.6 in H₂O 400 was added to an aq. acetone suspension of cyanuric chloride 37 parts at 0-5°, and the mixt. was stirred for 1/2 hr. and filtered to give 50 parts N-(2,4-dichloro-s-triazinyl) deriv. (III), m.p. 216° (EtOH), of II. 4,4'-Diamino-2,2'-stilbenedisulfonic acid 64, and NaOH 27 in H₂O 1500 were added at 25° to III 94 in H₂O 1500 parts, the mixt. was stirred at +25° for 3 hrs., and filtered to give a product, 90 parts of which was refluxed for 3 hrs. with 31 parts HOCH₂CH₂NH₂ in 300 parts H₂O to give I, X = NHC₂H₄OH. Also prep'd. was I, X = 1-aza-4,4-dioxo-4-thiacyclohex-1-yl.
 IT 105861-85-6, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide, di-Na salt
 (prepn. of)
 RN 105861-85-6 HCPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



CC 46 (Dyes)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis[(4,6-dichloro-s-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid as, for cellulose and polyamides)

IT Amides

(poly-, brightening (optical) agents for)

IT 34570-38-2, s-Triazine, 2,4-dichloro-6-thiomorpholino-, S,S-dioxide
 74381-46-7, Benzaldehyde, (2,4-dinitrophenyl)hydrazone
 105255-41-2, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-piperidino-s-triazin-2-yl]amino]-, disodium salt
 105282-88-0, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-thiomorpholino-s-triazin-2-yl]amino]-, S,S,S',S'-tetraoxide, di-Na salt 105861-85-6,

2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide, di-Na salt 106198-50-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(1-pyrrolidinyl)-6-thiomorpholino-s-triazin-2-yl]amino]-, S,S,S',S'-tetraoxide, di-Na salt
(prep. of)
IT 16013-46-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[(4,6-dichloro-s-triazin-2-yl)-amino]-
(reaction products with amines as fluorescent brighteners)

L46 ANSWER 27 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:53875 HCAPLUS
DOCUMENT NUMBER: 58:53875
ORIGINAL REFERENCE NO.: 58:9265b-e
TITLE: Optical brightening agents
INVENTOR(S): Gehm, Robert; Schmidt, Oswald; Mertens, Heinrich; Grunwald, Wolfgang; Hehl, Manfred
PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik A.-G.
SOURCE: 7 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1105375	-----	19610427	DE 1959-B51851	195901 24
US 3051704	-----	19620828	US 1960-3265	196001 19

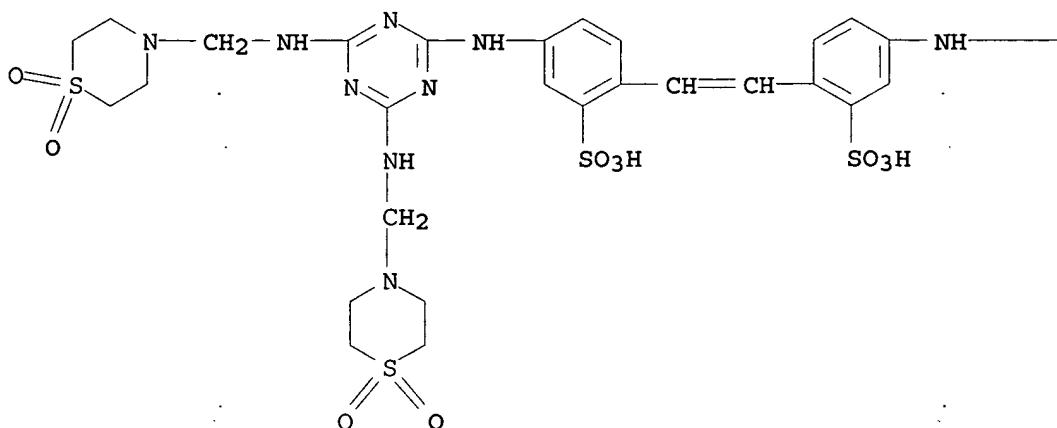
GI : For diagram(s), see printed CA Issue.
AB : Compds. of the general structure I are more efficient optical bleaching agents for cellulose and nylon than analogs prep'd. by using piperidine or morpholine in place of 1-aza-4-thiacyclohexane 4,4-dioxide (II). Thus, a soln. of cyanuric chloride 27 in Me₂CO 240 is stirred into a mixt. of ice 400 and H₂O 400, treated at 0-5° with a soln. of II 27 and NaHCO₃ 10.6 in H₂O 400, stirred for 0.5 hr., filtered and washed with ice water to give 50 parts N-(4,6-di-chloro-s-triazin-2-yl)azathiacyclohexane 4,4-dioxide (III), white needles (EtOH), m. 216°. A mixt. of III 94 and Me₂CO 1500 is treated at 25° with a soln. of [4,2-H₂N(HO₃S)C₆H₃CH:]₂ 64 and NaOH 27 in H₂O 1500 parts and stirred for 3 hrs. at 25° to give I [X = Cl (IV)] 82 parts; an addnl. 50 parts IV is recovered from the filtrate. A mixt. of IV 90 and H₂NCH₂CH₂OH 31 in H₂O 300 parts is refluxed for 3 hrs. to give I (X = NHCH₂-CH₂OH). Similarly, other I are prep'd. (X given): 1-pyrrolidinyl; NMe₂; NH(CH₂)₃OMe; NH₂; morpholino. A soln. of VA 20 in 2N NaOH 300 treated with II 15 and 30% aq. HCHO 11 parts, heated for 7 hrs. at 70° and ppt'd. with HCl gives VB.

IT 105861-84-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide
(prep. of)

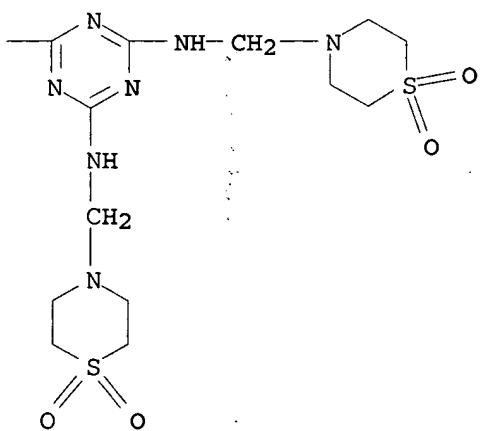
RN 105861-84-5 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide
(7CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



INCL 8I

CC 46 (Dyes)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis(thiomorpholino-s-triazin-2-yl)-2,2'-stilbenedisulfonic acid derivs. as, for cellulose and nylon)

IT Bleaching agents

(fluorescent or optical, stilbene derivs. of v-triazolo[4,5-e]indazole as, for polymers)

IT 34570-38-2, s-Triazine, 2,4-dichloro-6-thiomorpholino-, S,S-dioxide
105282-88-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[(2-hydroxyethyl)amino]-6-thiomorpholino-s-triazin-2-yl]amino]-, S,S,S',S'-tetraoxide, di-Na salt 105861-84-5,
2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-

bis[(thiomorpholinomethyl)amino]-s-triazin-2-yl]amino]-, octaoxide
(prepn. of)

L46 ANSWER 28 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1962:423272 HCAPLUS
 DOCUMENT NUMBER: 57:23272
 ORIGINAL REFERENCE NO.: 57:4685c-g
 TITLE: Triazinylstilbenesulfonic acids
 INVENTOR(S): Fleck, Fritz
 PATENT ASSIGNEE(S): Sandoz Ltd.
 SOURCE: 4 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1106334		19310510	DE	
CH 375363			CH	<--
GB 896264			GB	
US 3018287		19620123	US 1959-850524	195911 03
PRIORITY APPLN. INFO.:			CH	<-- 195811 05

AB Derivs. of 4,4'-bis(2,4-diamino-1,3,5-triazin-6-ylamino)stilbene-2,2'-disulfonic acid, valuable brightening agents for paper, preventing the green colorations usually obtained from the "size press," are prep'd. by condensing 2 moles cyanuric chloride with 1 mole 4,4'-diaminostilbene-2,2'-disulfonic acids, or their salts, and (a) 1-4 moles of a cyanoalkylamine and (b) 0-3 moles of a primary or secondary amine or ammonia, such that (a) + (b) is 4. Thus, 190 parts cyanuric chloride, 800 parts acetone, and 2000 parts ice-water are stirred 10 min., and the suspension treated with a soln. of 185 parts 4,4'-diaminostilbene-2,2'-disulfonic acid and 106 parts Na₂CO₃ in 1500 parts water. The mixt. is stirred 1 hr. at 0-5°, when the aromatic NH₂ group is no longer detectable by diazotization. A soln. of 74 parts β-cyanoethylamine in 150 parts water is added, and the mixt. stirred 2 hrs. at 40°, keeping pH 6.5-7.0 by the addn. of 40 parts NaOH in 360 parts water. A second soln. of 74 parts β-cyanoethylamine in 150 parts water is added and the mixt. heated 5 hrs. at 95-100°, when acetone distils, the liberated HCl being neutralized by 400 parts 10% NaOH soln. The mixt. is dild. by 10,000 parts water and acidified at 50° by 240 parts 1:1 HCl, the pptd. sulfonic acid filtered off and dissolved in 2500 parts water and 400 parts 10% NaOH soln. at 50°, and the light-yellow water-sol. Na-salt of 4,4'-bis[2,4-bis(β-cyanoethylamino)-1,3,5-triazin-6-ylamino]stilbene-2,2'-disulfonic acid obtained by evapn. in vacuo. Similarly, other agents are prep'd. using other cyanoalkylamines e.g., β-cyanoethyl(β-hydroxyethyl)amine, β,β'-dicyanodiethylamine, and β-cyanoethyl(β-hydroxypropyl)-amine.

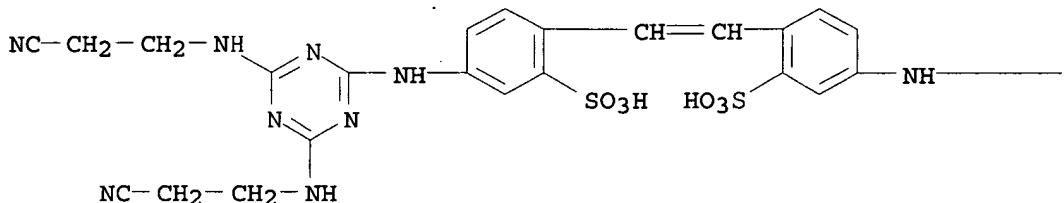
IT 105107-18-4, 2,2'-Stilbenedisulfonic acid,

4,4'-bis[[4,6-bis[(2-cyanoethyl)amino]-s-triazin-2-yl]amino]-,
disodium salt
(prepn. of)

RN 105107-18-4 HCAPLUS

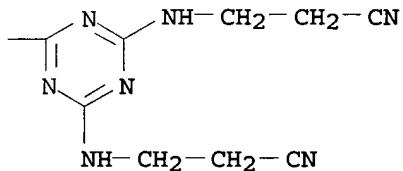
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[(2-cyanoethyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI) (CA INDEX NAME)

PAGE 1-A



•₂ Na

PAGE 1-B



INCL 12P

CC 32 (Heterocyclic Compounds-More than One Hetero Atom)

IT 105107-18-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4,6-bis[(2-cyanoethyl)amino]-s-triazin-2-yl]amino]-,
disodium salt
(prepn. of)

L46 ANSWER 29 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1957:52180 HCAPLUS

DOCUMENT NUMBER: 51:52180

ORIGINAL REFERENCE NO.: 51:9718e-h

TITLE: Preparation of triazine trioxides using H₂SO₅

INVENTOR(S) : Schroeder, Hansjuergen A.

PATENT ASSIGNEE(S) : Olin Mathieson Chemical Corp.

DOCUMENT TYPE: Patent

LANGUAGE: **Unavailable**

ENCLOSURE.

PATENT INFORMATION:

ATTENTIVE INFORMATION:

PATENT NO. US 3280623 KIND D DATE 19570305 APPLICATION NO. US DATE

US 2780622 19570205 US

AB In the temp. range 5-20° Caro's acid converts

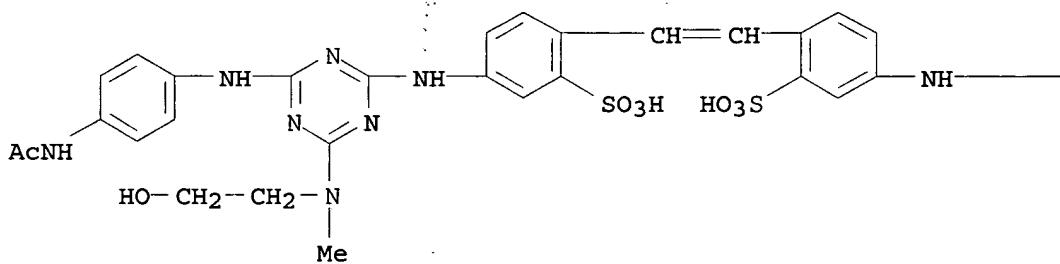
2,4-diaryl-6-amino-1,3,5-triazines to 2-aryl-4-hydroxy-6-amino-1,3,5-triazine trioxides. Thus 2,4-diphenyl-6-amino-1,3,5-triazine 3 (parts by wt.) was dissolved in cold concd. H₂SO₄ 32 with stirring, the clear soln. treated with a cold mixt. of 30% H₂O₂ 30 and 30% oleum 120 parts dropwise with efficient stirring, and with the temp. kept at about 5°, the mixt. allowed to warm to 15° for 2 hrs., then kept 4 hrs. at 5°, poured onto 1000 parts crushed ice, 50% aq. KOH added with stirring and with the temp. kept below 10° until about one-third of the total acid was neutralized, and the ppt. appearing at this point filtered off immediately, washed with ice, H₂O and dried over P₂O₅. Complete neutralization of the mother liquor yielded a 2nd ppt., mainly 2-amino-4-hydroxy-6-phenyl-1,3,5-triazine. The crude product, 2-phenyl-4-hydroxy-6-amino-1,3,5-triazine tris(N-oxide) is obtained as a monohydrate, which, purified by recrystn., softened, apparently with loss of H₂O, at 160-70° and m. 244-6°. The compd. is also obtained in anhyd. form, m. 244-6° by heating the monohydrate 1 hr. at 190°. The alcoholate, m. 244-6°, after softening at 160° with loss of alc., is obtained by recrystn. from EtOH. When the starting material is 2,4-bis(p-chlorophenyl)-6-amino-1,3,5-triazine, the final product is 2-(p-chlorophenyl)-4-hydroxy-6-amino-1,3,5-triazine tris(N-oxide) monohydrate, softens at 165° and m. 269°.

IT 108880-89-3, 2,2'-Stilbenedisulfonic acid,
4,4'-bis{[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino}-, disodium salt
(prepn. of)

RN 108880-89-3 HCPLUS

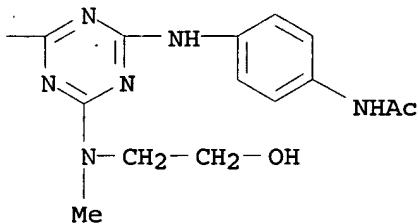
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt
(6CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



CC 10 (Organic Chemistry)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis(s-triazin-2-ylamino)-
2,2'-stilbenedisulfonic acid derivs.)

IT 767-17-9, s-Triazine-2-thiol, 4,6-diamino- 13863-31-5,
2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-anilino-6-[(2-
hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt
33957-63-0, s-Triazin-2-ol, 4-amino-6-phenyl- 98879-88-0,
s-Triazin-2-ol, 4-amino-6-phenyl-, 1,3,5-trioxide 102014-86-8,
s-Triazin-2-ol, 4-amino-6-(p-chlorophenyl)-, 1,3,5-trioxide
108847-60-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-[(2-
hydroxyethyl)methyl-amino]-6-(4-methyl-m-anisidino)-s-triazin-2-
yl}amino}-, disodium salt 108847-62-7, 2,2'-Stilbenedisulfonic
acid, 4,4'-bis{{4-p-anisidino-6-[ethyl(2-hydroxyethyl)amino]-s-
triazin-2-yl}amino}-, disodium salt 108880-89-3,
2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-(p-acetamidoanilino)-6-[(2-
hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt
(prepns. of)

L46 ANSWER 30 OF 32 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1957:21928 HCPLUS

DOCUMENT NUMBER: 51:21928

ORIGINAL REFERENCE NO.: 51:4433f-h

TITLE: Bis(triazinylamino)stilbene compounds

INVENTOR(S): Hausermann, Heinrich

PATENT ASSIGNEE(S): J. R. Geigy A.-G.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2762801		19560911	US	<--

AB 4,4'-(4,6-R,R' substituted)-s-triazinyl-2,2'-stilbenedisulfonic acids (I), useful as optical brightening agents, were prep'd. Cyanuric chloride 18.5 was dissolved in Me₂CO 120 added to a mixt. of ice 200 and water 200, the suspension treated with stirring at pH 5.6 at 0-5° with 4,4'-diamino-2,2'-stilbenedisulfonic acid di-Na salt 20.7 in water 200 and a soln. of Na₂CO₃ 5.3, and the resulting soln. stirred with PhNH₂ 9.3 at 15-25° at a pH of 6.5-7.5 maintained by the slow addn. of Na₂CO₃ 5.3 in water 25; after no more PhNH₂ was present, HOCH₂CH₂NHMe (II) was added dropwise until the reaction mixt

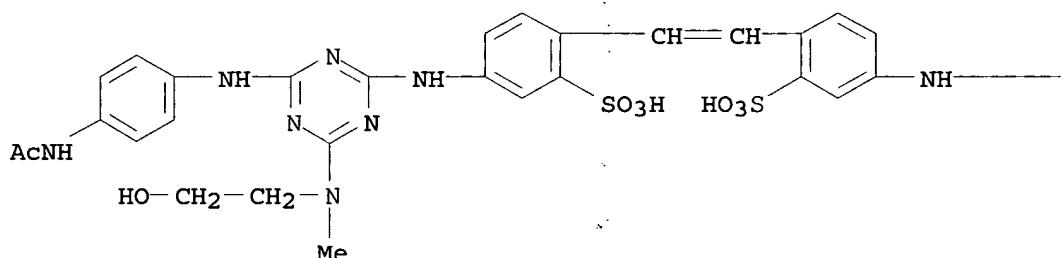
turned phenolphthalein paper red, the mixt. gradually heated to 90-5°, stirred 1.5 hrs. at this temp., the mixt. being always kept alk. to phenolphthalein with II (15-20 parts II being required); while heating, the Me₂CO was distd. and the resulting di-Na salt salted out with NaCl 75 parts, filtered off, washed with 5% NaCl soln., and dried in vacuo at 70-90° to give I (R = HOCH₂CH₂NMe (III) R' = PhNH)di-Na salt, yellowish powder, sol. in water. Similarly were prep'd. the following di-Na salts (all yellow, water-sol. powders) of I (R, R' given): HOCH₂CH₂NET, p-MeOC₆H₄NH; III, 3,4-MeO(Me)C₆H₃NH; III, p-MeOC₆H₄NH; III, p-AcNH₂C₆H₄NH.

IT 108880-89-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt
(prep'n. of)

RN 108880-89-3 HCPLUS

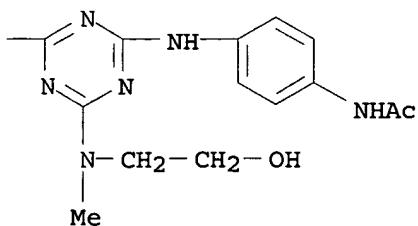
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl]amino]-, disodium salt
(6CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



CC 10 (Organic Chemistry)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis(s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT 13863-31-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{4-anilino-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt

108847-60-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-[(2-hydroxyethyl)methylamino]-6-(4-methyl-m-anisidino)-s-triazin-2-

yl}amino}-, disodium salt 108847-62-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-p-anisidino-6-[ethyl(2-hydroxyethyl)amino]-s-triazin-2-yl}amino}-, disodium salt 108880-89-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis{{4-(p-acetamidoanilino)-6-[(2-hydroxyethyl)methylamino]-s-triazin-2-yl}amino}-, disodium salt (prepn. of)

L46 ANSWER 31 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1953:39337 HCAPLUS

DOCUMENT NUMBER: 47:39337

ORIGINAL REFERENCE NO.: 47:6667e-h

TITLE: Triazine substances for textile treatment

INVENTOR(S): Wilson, Robert H.

PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2612501		19520930	US 1948-53600	194810 08

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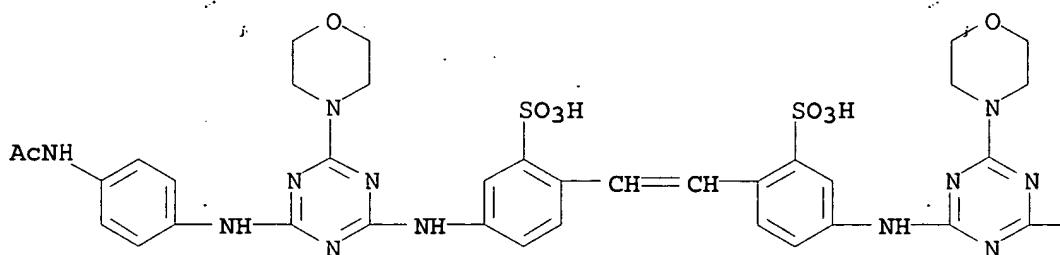
AB An improved fluorescing agent for textiles in ultraviolet light comprises a 4,4'-bis(triazinylamino)-2,2'-stilbenedisulfonic acid compd. contg. dimethylamine or morpholino groups attached to the triazine nuclei. Thus, the intermediate di-Na 4,4'-bis(2,4-dichloro-1,3,5-triazin-6-ylamino)-2,2'-stilbenedisulfonic acid (I) is made by adding NaOH 8 to 4,4'-diamino-2,2'-stilbenedisulfonic acid (II) 37 parts in 240 parts water. The clear soln. so obtained is added to cyanuric chloride (III) suspension (III 36.8, Me₂CO 92, water 1600 parts) in 30 min. at 20-5° and stirred 2 hrs. during addn. of 80 parts 10% NaOH soln. (final mixt. slightly acid to Congo red paper). To the 71 parts I so prep'd. 18.6 parts aniline are added. Following heating at 50° and occasional NaOH addn. until no further acidity develops (Delta test paper), 18 parts Me₂NH are added. The mixt. is heated 5 hrs. at 95-100°. The pale yellow solid, 4,4'-bis(2-dimethylamino-4-anilino-1,3,5-triazin-6-ylamino)-2,2'-stilbenedisulfonic acid is pptd. by addn. of 400 parts NaCl and dried at 60°. Instead of 18.6 parts aniline, 21.4 parts of m-toluidine or 30.0 of p-aminoacetanilide are used in other examples. Similar compds. are also obtained by using morpholine instead of Me₂NH in each case.

IT 776276-57-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4-(p-acetamidoanilino)-6-morpholino-s-triazin-2-ylamino]-
860422-79-3, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4-(p-acetamidoanilino)-6-dimethylamino-s-triazin-2-ylamino]-
(prepn. of)

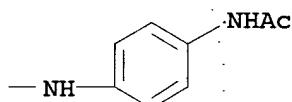
RN 776276-57-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-[(4-(acetylamino)phenyl)amino]-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



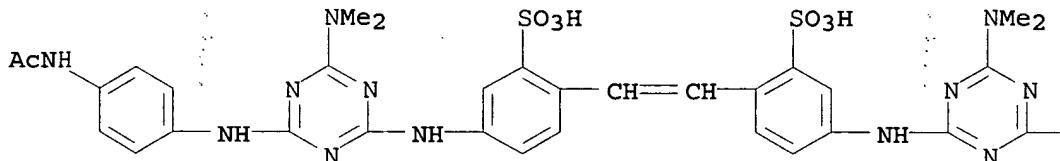
PAGE 1-B



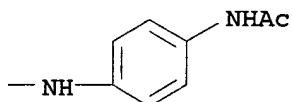
RN 860422-79-3 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-dimethylamino-s-triazin-2-ylamino]- (5CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 25 (Dyes and Textiles Chemistry)

IT Bleaching agents

(fluorescent or optical, stilbenedisulfonic acid
derivs.)IT 16013-46-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4,6-dichloro-s-triazin-2-ylamino)- 24231-46-7, 2,2'-Stilbenedisulfonic acid,
4,4'-bis(4-anilino-6-morpholino-s-triazin-2-ylamino)-
776276-57-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4-(p-acetamidoanilino)-6-morpholino-s-triazin-2-ylamino]-

802613-17-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-anilino-6-dimethylamino-s-triazin-2-ylamino)- 858240-09-2,
 2,2'-Stilbenedisulfonic acid, 4,4'-bis(4-dimethylamino-6-m-toluidino-s-triazin-2-ylamino)- 860422-79-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-(p-acetamidoanilino)-6-dimethylamino-s-triazin-2-ylamino]-
 (prepn. of)

L46 ANSWER 32 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1950:23803 HCAPLUS
 DOCUMENT NUMBER: 44:23803
 ORIGINAL REFERENCE NO.: 44:4686a-e
 TITLE: Anthraquinone dyes
 INVENTOR(S): v. Allmen, Samuel; Eggenberger, Hans
 PATENT ASSIGNEE(S): Sandoz Ltd.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2480985		19490906	US 1947-759470	194707 07

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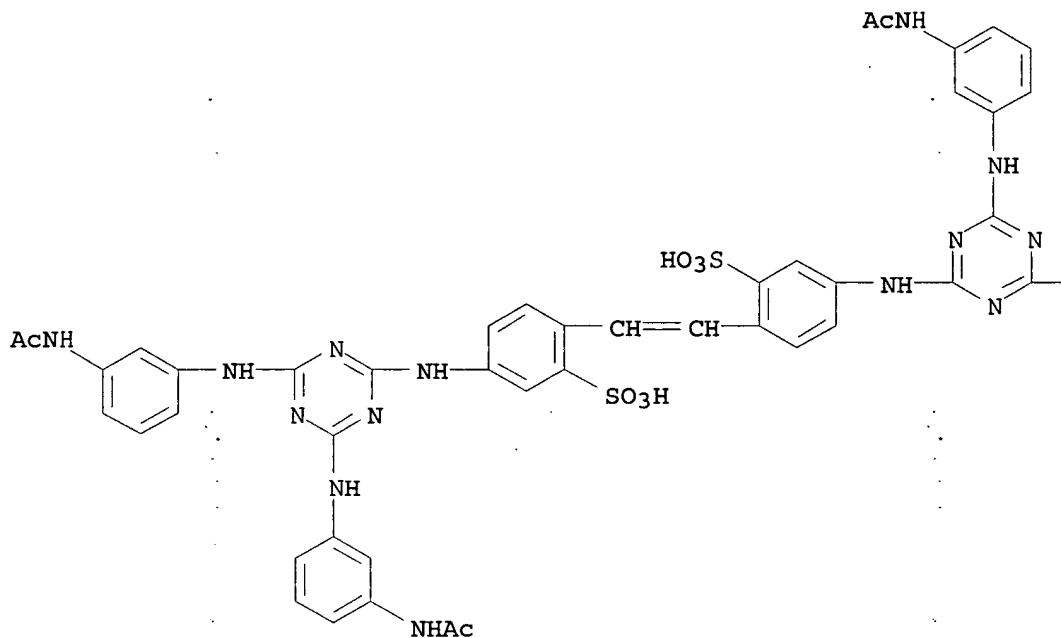
GI For diagram(s), see printed CA Issue.
 AB Anthraquinone dyes (I), in which X is halogen or SO₃H, Y is alkyl, R is H, alkyl, or halogen, and one Z is SO₃H, the others being H, are treated with halogenating agents to produce blue dyes which, on animal fibers and nylon, are fast to light, washing, and milling. Thus a soln. of the Na salt of 1-amino-4-(2,4,6-trimethylanilino)anthraquinone-2,6-disulfonic acid 5.8 in 85% H₂SO₄ 50 is treated with Cl 1.5 parts at 20-30° with agitation. The temp. is then raised to 60-100° for 1 h., after which the mixt. is poured into ice H₂O. The dye seps. as reddish blue needles. To the K salt of 1-amino-4-(2,6-dimethylanilino)anthraquinone-2,6-disulfonic acid 5.8 in 50 parts 90% H₂SO₄ Br 1.8 is added, and the mixt. stirred overnight at 20-30° and then 3 h. at 40°. Red-blue needles ppt. from ice H₂O, dyeing protein fibers in bright blue shades. 1-Amino-4-(2,4,6-trimethylanilino)anthraquinone-2,5-disulfonic acid with Br gives red-blue needles which dye animal fibers in red-blue shades. 1-Amino-2-bromo-4-(2,6-dimethyl-4-chloroanilino)anthraquinone-7-sulfonic acid 5 in fuming H₂SO₄ 25 parts contg. 1-2% SO₃, after addn. of iodine and passage of a slow current of Cl gives a dye which treated with K sulfite under pressure gives a 2,7-disulfonic acid which dyes fabrics in red-blue shades. Halogenated I claimed are 1-amino-4-(3,5-dibromo-2,4,6-trimethylanilido)anthraquinone-2,6-disulfonic acid, the analogous dichloro compd., and 1-amino-4-(dibromo-2,6-diethylanilino)anthraquinone-2,8-disulfonic acid. Cf. C.A. 43, 8164d.

IT 873375-83-8, 2,2'-Stilbenedisulfonic acid, 4-[4-(m-acetamidoanilino)-6-[4-(m-carboxyphenylazo)-o-anisidino]-s-triazin-2-ylamino]-4'-[4,6-bis(m-acetamidoanilino)-s-triazin-2-ylamino]-
 (prepn. of)

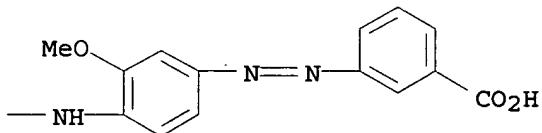
RN 873375-83-8 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4-[4-(m-acetamidoanilino)-6-[4-(m-carboxyphenylazo)-o-anisidino]-s-triazin-2-ylamino]-4'-[4,6-bis(m-acetamidoanilino)-s-triazin-2-ylamino] - (5CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 25 (Dyes and Textiles Chemistry)

IT 69272-00-0, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(2,4,6-trimethylanilino)- 737791-27-4, 1,6-Anthraquinonedisulfonic acid, 5-amino-8-(2,4,6-trimethylanilino)- 738583-79-4, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(2,6-xylidino)- 873375-83-8, 2,2'-Stilbenedisulfonic acid, 4-[4-(m-acetamidoanilino)-6-[4-(m-carboxyphenylazo)-o-anisidino]-s-triazin-2-ylamino]-4'-[4,6-bis(m-acetamidoanilino)-s-triazin-2-ylamino]- 875840-34-9, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(3,5-dichloro-2,4,6-trimethylanilino)- 875840-42-9, 2,6-Anthraquinonedisulfonic acid, 1-amino-4-(3,5-dibromo-2,4,6-trimethylanilino)- 875841-82-0, 2-Anthraquinonesulfonic acid,

8-amino-7-bromo-5-(4-chloro-2,6-xylidino)-
(prepns. of)

=> d 140 ibib abs hitstr hitind 1-26

L40 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:673380 HCAPLUS
 DOCUMENT NUMBER: 143:155171
 TITLE: Triazinylaminostilbene disulphonic acid
 mixtures for use as a
 fluorescent whitening agent
 for paper
 INVENTOR(S): Cuesta, Fabienne; Deisenroth, Ted; Rohringer,
 Peter
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: PCT Int. Appl., 25 pp.
 CODEN: PIIXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005068597	A1	20050728	WO 2005-EP50070	200501 10
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: EP 2004-100158	A			200401 20

OTHER SOURCE(S): MARPAT 143:155171
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

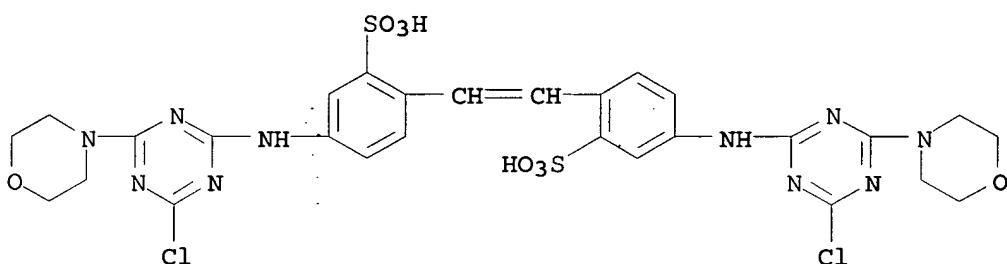
AB The present invention relates to a fluorescent
 whitening agent comprising a mixt. of two sym. and
 one asym. substituted triazinylaminostilbene disulfonic acids,
 certain novel derivs., a process for their preps. and use of the
 mixt. for whitening synthetic or natural org.
 materials, esp. paper and for the fluorescent
 whitening and improvement of sun protection factors of

textile materials. Thus, a paper coating with excellent whitening effects was prep'd. by mixing fluorescent whitening agent mixts. of I, II, and III, calcium carbonate clay, polyvinyl alc., and SBR binder.

IT 28950-66-5P, 4,4'-Bis[(4-morpholino-6-chloro-1,3,5-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid disodium salt
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)

RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C11D003-42

ICS D21H021-30; D06L003-12; C07D251-68

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 40, 41

ST triazinylaminostilbene disulfonic acid fluorescence paper whitening agent paper

IT Clays, uses

RL: MOA (Modifier or additive use); USES (Uses)
 (paper coating-contg.; prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)

IT Styrene-butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (paper coating-contg.; prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)

IT Coating materials

Fluorescent brighteners

Fluorescent pigments

Paper

Textiles

(prepn. of triazinylaminostilbene disulfonic acid mixts. for fluorescent paper whitening agent)

IT 28950-66-5P, 4,4'-Bis[(4-morpholino-6-chloro-1,3,5-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid disodium salt
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)
 (intermediate; prepn. of triazinylaminostilbene disulfonic acid
 mixts. for fluorescent paper whitening
 agent)

IT 471-34-1, Carbonic acid calcium salt (1:1), uses 9002-89-5
 RL: MOA (Modifier or additive use); USES (Uses)
 (paper coating-contg.; prepn. of triazinylaminostilbene
 disulfonic acid mixts. for fluorescent paper
 whitening agent)

IT 28950-65-4P 29641-34-7P 586962-96-1P 586963-05-5P
 852394-70-8P 859699-88-0P 859699-90-4P 859699-92-6P
 859699-95-9P 859699-97-1P 859699-99-3P 859700-01-9P
 859700-03-1P 859700-06-4P 859700-09-7P 859700-11-1P
 859700-13-3P 859700-15-5P 859700-17-7P 859700-19-9P
 859700-22-4P 859700-25-7P 859700-27-9P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of triazinylaminostilbene disulfonic acid mixts
 for fluorescent paper whitening agent)

IT 56-84-8, Aspartic acid, reactions 108-77-0 110-91-8, Morpholine,
 reactions 111-42-2, reactions 7336-20-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; prepn. of triazinylaminostilbene disulfonic
 acid mixts. for fluorescent paper
 whitening agent)

IT 9003-55-8
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (styrene-butadiene rubber, paper coating-contg.; prepn. of
 triazinylaminostilbene disulfonic acid mixts. for
 fluorescent paper whitening agent)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L40 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:823991 HCAPLUS
 DOCUMENT NUMBER: 141:316284
 TITLE: Detergent compositions containing
 fluorescent whitening agents
 INVENTOR(S): Kaschig, Juergen; Hochberg, Robert; Becherer,
 Oliver; Merkle, Gerhard; Schaumann, Monika;
 Schultz, Bernard
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: PCT Int. Appl., 67 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004085594	A1	20041007	WO 2004-EP50307	200403 15

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG

AU 2004224146 A1 20041007 AU 2004-224146

200403
15

EP 1606380 A1 20051221 EP 2004-720626

200403
15

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
PL, SK

BR 2004008685 A 20060328 BR 2004-8685

200403
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CN 1764714 A 20060426 CN 2004-80007851

200403
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US 2006166850 A1 20060727 US 2006-548359

200603
06

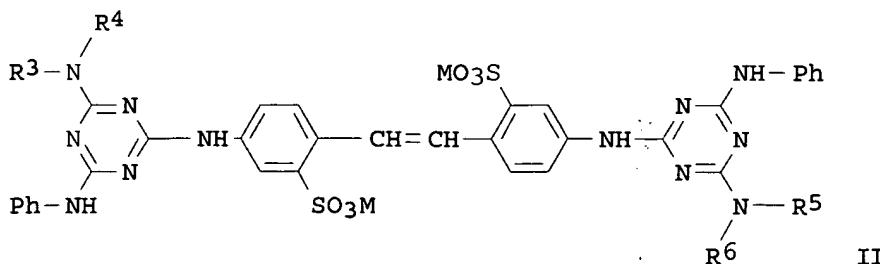
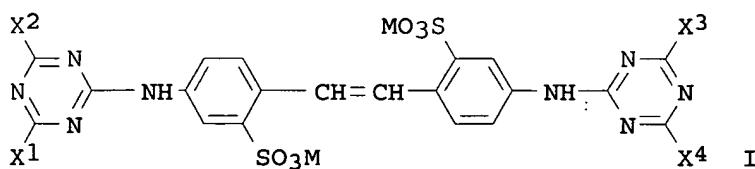
PRIORITY APPLN. INFO.: EP 2003-100741 A

200303
24

WO 2004-EP50307 A

200403
15

OTHER SOURCE(S): MARPAT 141:316284
GI



AB A detergent compn. comprising fluorescent

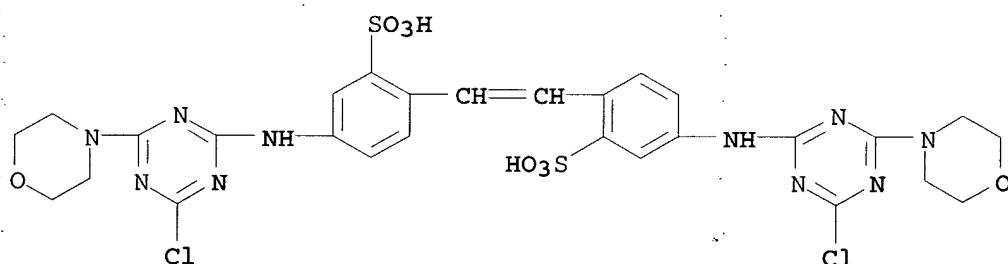
whitening agents, comprises at least one compd. of formula I, (wherein X₁, X₂, X₃ and X₄ are -N(R₁)R₂, wherein R₁ and R₂ are independently from each other hydrogen, cyano, Me, substituted Me, CH₂CH₂OH or C₅-C₇ cycloalkyl, or R₁ and R₂, together with the nitrogen atom linking them, form a heterocyclic ring; and M is hydrogen or a cation) together with at least one compd. of formula II (wherein R₃ and R₅, independently from each other, are hydrogen, unsubstituted C₁-C₈ alkyl or substituted C₁-C₈ alkyl; R₄ and R₆, independently from each other, are hydrogen, unsubstituted Ph, unsubstituted C₁-C₈ alkyl or substituted C₁-C₈ alkyl, or NR₃R₄ and/or NR₅R₆ form an unsubstituted or substituted morpholino ring; and M is hydrogen or a cation).

IT 28950-66-5 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(detergent compns. contg. fluorescent
whitening agents)

RN 28950-66-5 HCPLUS

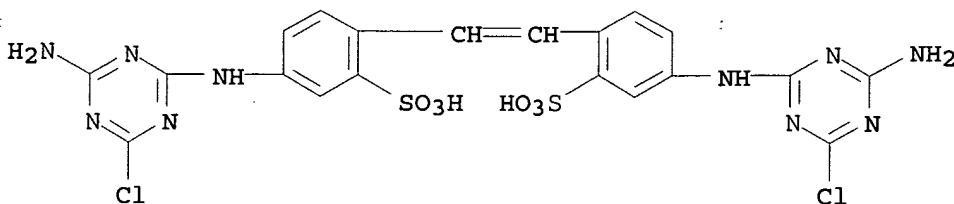
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 52205-59-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C11D003-42

CC 46-5 (Surface Active Agents and Detergents)

ST fluorescent whitening agent sodium
bistriazinylstilbene disulfonate

IT Detergents
 (bleaching; detergent compns. contg.
 fluorescent whitening agents)

IT Fluorescent brighteners
 (laundry detergent compns. contg.)

IT Detergents
 (laundry, enzyme-contg.; detergent compns. contg.
 fluorescent whitening agents)

IT Enzymes, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (protein-degrading; detergent compns. contg.
 fluorescent whitening agents)

IT 9000-92-4, Amylase 9001-62-1, Lipase 9001-92-7, Protease
 9012-54-8, Cellulase
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (detergent compns. contg. fluorescent
 whitening agents)

IT 74-89-5, Methylamine, reactions 108-77-0, Cyanuric chloride
 109-83-1, Methylethanolamine 141-43-5, Ethanolamine, reactions
 7336-20-1 28950-66-5 52205-59-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (detergent compns. contg. fluorescent
 whitening agents)

IT 586962-96-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (detergent compns. contg. fluorescent
 whitening agents)

IT 3654-77-1P 586962-99-4P 768395-11-5P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (detergent compns. contg. fluorescent
 whitening agents)

IT 133-66-4 4193-55-9 13863-31-5 16090-02-1 31900-04-6
 RL: TEM (Technical or engineered material use); USES (Uses)
 (detergent compns. contg. fluorescent
 whitening agents)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L40 ANSWER 3 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:453320 HCPLUS
 DOCUMENT NUMBER: 141:25251
 TITLE: Amphoteric fluorescent
 whitening agents for paper
 Scheffler, Goetz; Rohringer, Peter; Fletcher,
 Ian John
 INVENTOR(S): Scheffler, Goetz; Rohringer, Peter; Fletcher,
 Ian John
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holdings Inc., Switz.
 SOURCE: PCT Int. Appl., 74 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004046293	A2	20040603	WO 2003-EP12583	
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WO 2004046293	C1	20040826		
WO 2004046293	A3	20041014		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2504256	AA	20040603	CA 2003-2504256	
				200311 11
AU 2003288033	A1	20040615	AU 2003-288033	
				200311 11
EP 1563049	A2	20050817	EP 2003-779887	
				200311 11
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1711348	A	20051221	CN 2003-80103529	
				200311 11
BR 2003016400	A	20060221	BR 2003-16400	
				200311 11
JP 2006506492	T2	20060223	JP 2004-552569	
				200311 11
EP 1674616	A2	20060628	EP 2006-111552	
				200311 11
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
US 2006155124	A1	20060713	US 2005-534315	
				200505 09
PRIORITY APPLN. INFO.:		EP 2002-405998	A	
				200211 19
		EP 2003-779887	A3	
				200311 11
		WO 2003-EP12583	W	
				200311 11

OTHER SOURCE(S): MARPAT 141:25251
GI

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Novel bis-triazinylaminostilbene amphoteric fluorescent whitening agents, comprising both individual components and mixts. thereof, are used as fluorescent whitening agents for the fluorescent whitening of paper. Thus, a fluorescent whitening agent comprises a mixt. of compds. of the formula I, II and III in which A* represents a group of the formula IV, wherein A represents -X-Y-NR₃R₄ and C is -NR₁R₂ and B* represents a group of the formula V, VI and VII wherein D represents -NR₅R₆ and E represents -X₁-Y₁-NR₇R₈, whereby X and X₁ each, independently of each other, represent -O- or -NH-, Y and Y₁ each, independently of each other, represent a straight-chain C₂-C₈ alkylene or branched C₃-C₈ alkylene chain, which may be interrupted by one or two nitrogen, oxygen or sulfur atoms or represent a 5- or 6-membered cycloaliph. ring, R₁, R₂, R₅ and R₆ each independently of each other, represent hydrogen, C₁-C₈ alkyl, C₂-C₄ hydroxyalkyl, C₁-C₄ alkoxy C₁-C₄ alkyl, Ph, which is unsubstituted or substituted by halogen, C₁-C₄ alkoxy, C₁-C₄ alkyl or sulfonamido, or R₁ and R₂ and /or R₅ and R₆, together with the nitrogen atom to which they are attached, complete a morpholino- piperidino- or pyrrolidino-ring, R₃, R₄, R₇ and R₈, each independently of each other, represent hydrogen, C₁-C₄ alkyl, C₂-C₄ hydroxyalkyl or R₃ and R₄ and/or R₇ and R₈, together with the nitrogen atom to which they are attached, complete a morpholino-, piperidino- or pyrrolidino-ring and M represents hydrogen, an alk. or alk. earth metal, ammonium or alkylammonium. A process for their prepn. and intermediates useful for their prepn. are discussed.

IT 4028-32-4 13281-93-1 37138-23-1

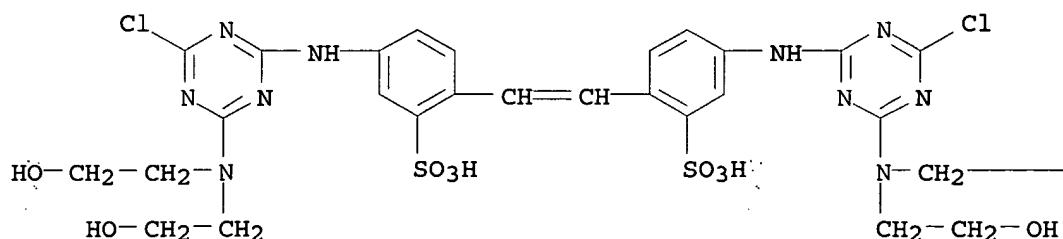
52205-59-1 52576-51-9 213910-64-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(amphoteric fluorescent whitening agents for paper)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

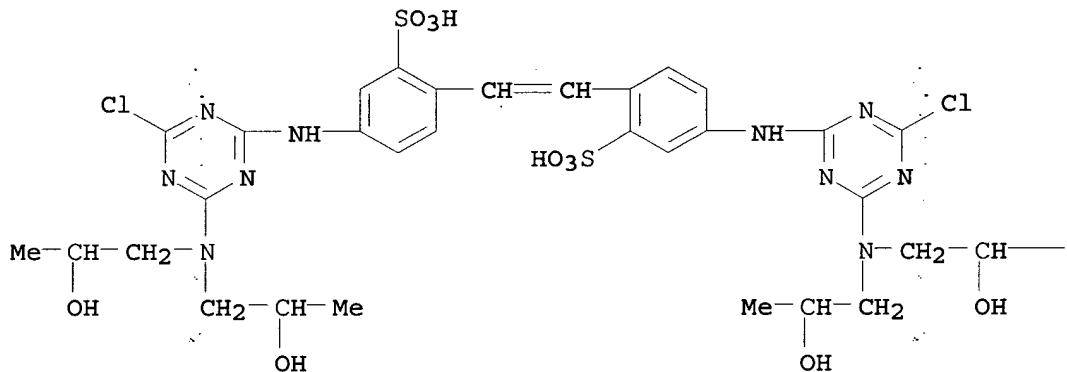
PAGE 1-B

— CH₂— OH

RN 13281-93-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



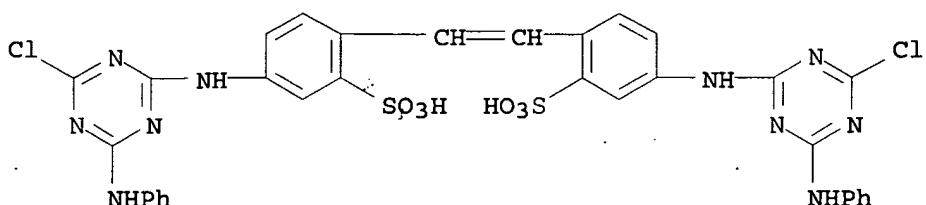
●2 Na

PAGE 1-B

— Me

RN 37138-23-1 HCPLUS

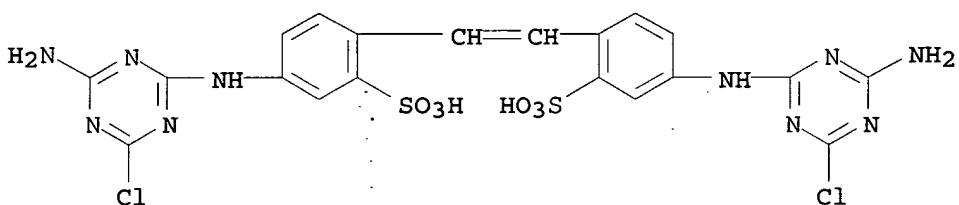
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 52205-59-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)

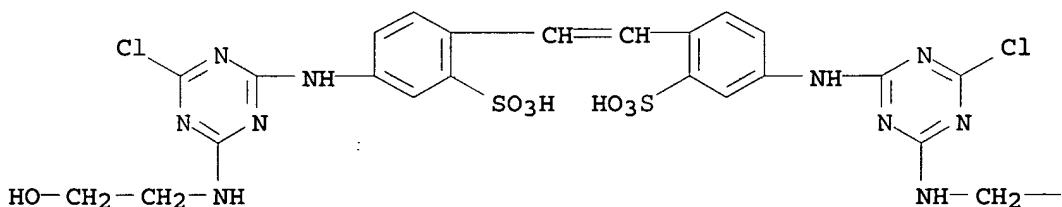


●2 Na

RN 52576-51-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



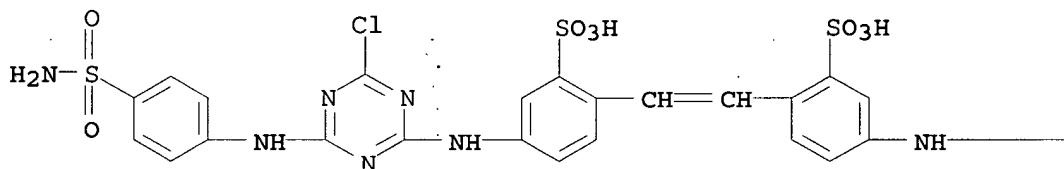
●2 Na

PAGE 1-B

— CH₂—OH

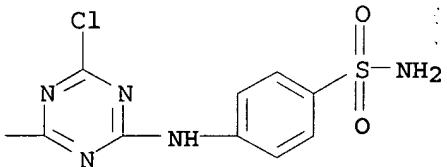
RN 213910-64-6 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-
 (aminosulfonyl)phenyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-,
 disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



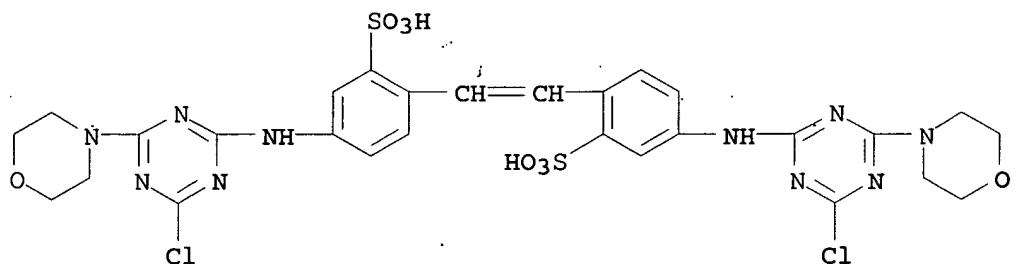
●2 Na

PAGE 1-B



IT 28950-66-5P 602304-27-8P 697768-38-0P
 697768-42-6P 697768-49-3P 697768-51-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)

RN 28950-66-5 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-
 morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA
 INDEX NAME)

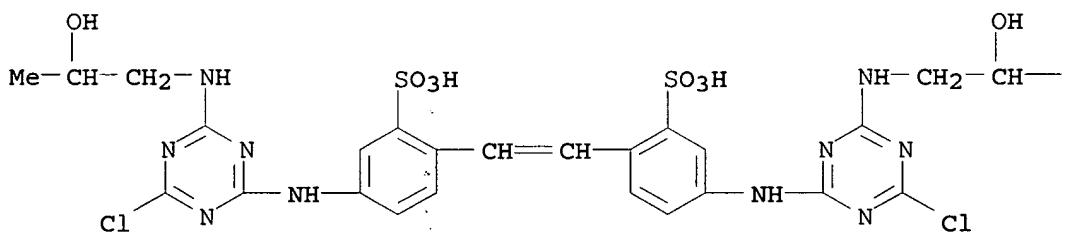


●2 Na

RN 602304-27-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

PAGE 1-A



●2 Na

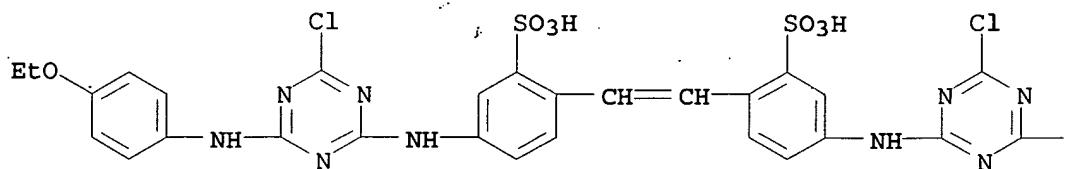
PAGE 1-B

— Me

RN 697768-38-0 HCPLUS

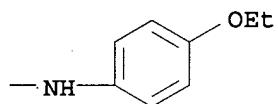
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(4-ethoxyphenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI)
(CA INDEX NAME)

PAGE 1-A



●2 Na

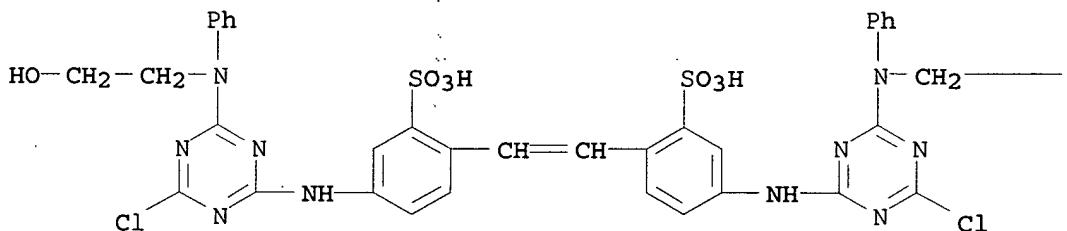
PAGE 1-B



RN 697768-42-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(2-hydroxyethyl)phenylamino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

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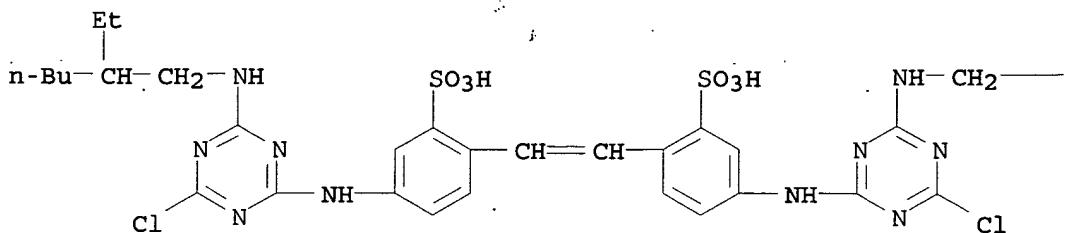
PAGE 1-B

—CH₂—OH

RN 697768-49-3 HCPLUS

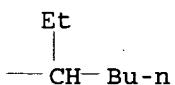
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(2-ethylhexyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



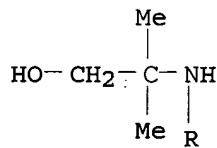
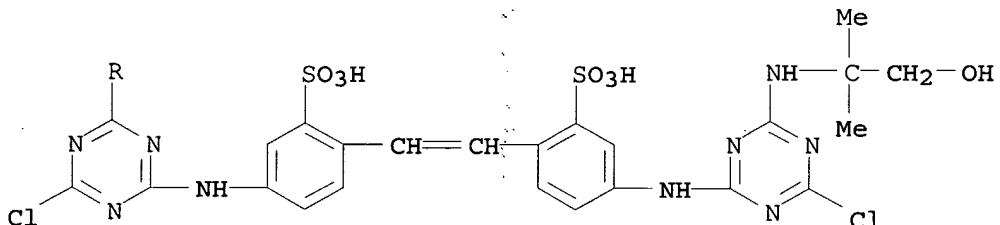
●2 Na

PAGE 1-B



RN 697768-51-7 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxy-1,1-dimethylethylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IT 697768-04-0P 697768-06-2P 697768-09-5P

697768-20-0P 697768-22-2P 697768-33-5P

697768-34-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(amphoteric fluorescent whitening agents for paper)

RN 697768-04-0 HCPLUS

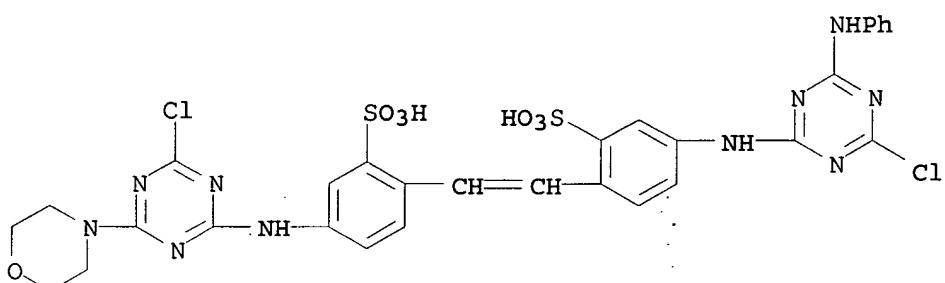
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-

morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[{4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-2-[2-[4-[{4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[{4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 602304-28-9

CMF C30 H26 Cl2 N10 O7 S2 . 2 Na

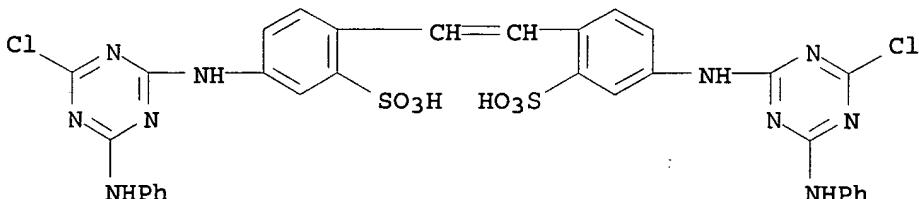


●2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

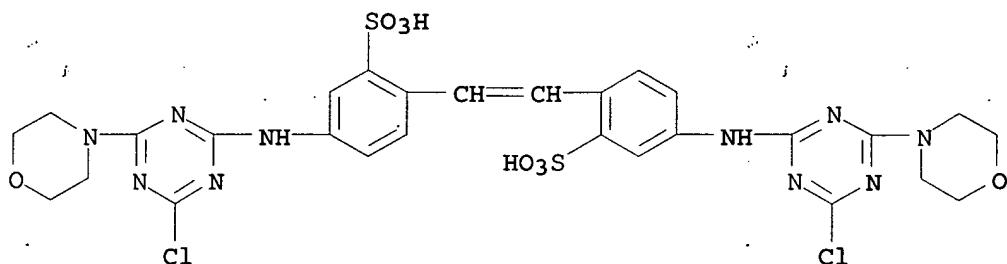


●2 Na

CM 3

CRN 28950-66-5

CMF C28 H28 Cl2 N10 O8 S2 . 2 Na



●2 Na

RN 697768-06-2 HCPLUS

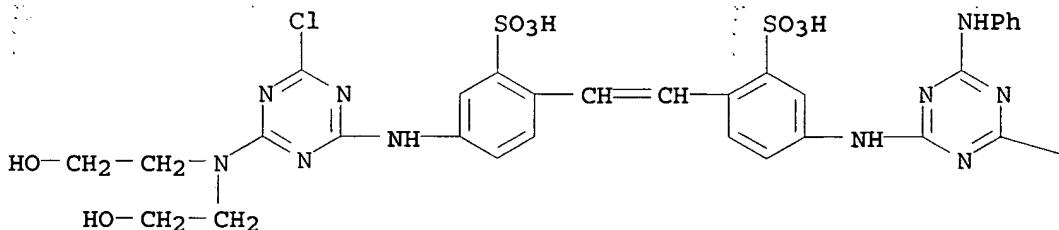
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-05-1

CMF C30 H28 Cl2 N10 O8 S2 . 2 Na

PAGE 1-A



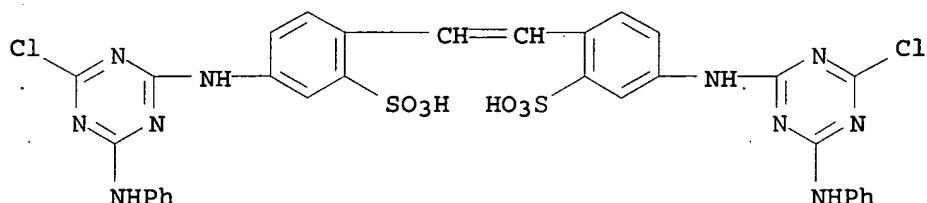
●2 Na

PAGE 1-B

Cl

CM 2

CRN 37138-23-1
 CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

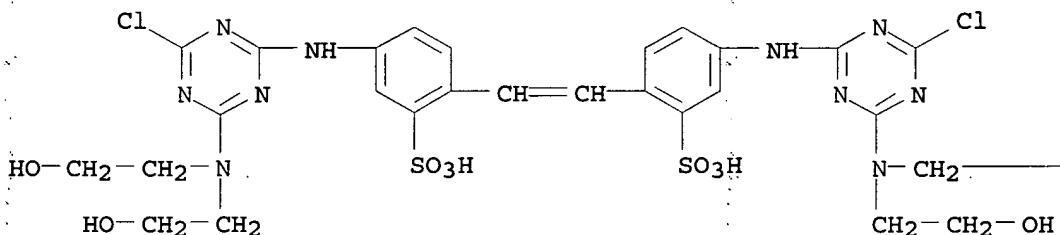


●2 Na

CM 3

CRN 4028-32-4
 CMF C28 H32 Cl2 N10 O10 S2 . 2 Na

PAGE 1-A



●2 Na

PAGE 1-B

 $\text{--CH}_2\text{--OH}$

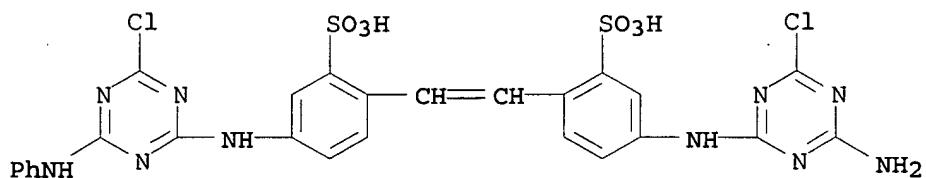
RN 697768-09-5 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt, mixt. with 5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-2-[2-[[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and

2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-08-4

CMF C26 H20 Cl2 N10 O6 S2 . 2 Na

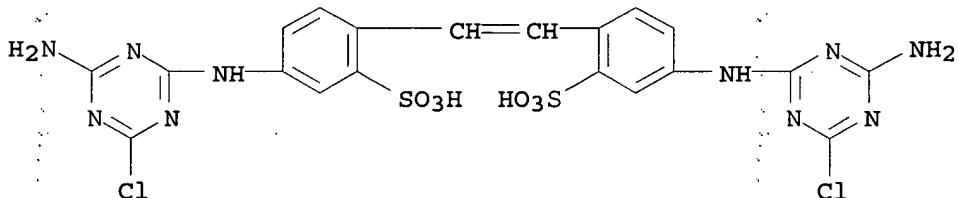


●2 Na

CM 2

CRN 52205-59-1

CMF C20 H16 Cl2 N10 O6 S2 . 2 Na

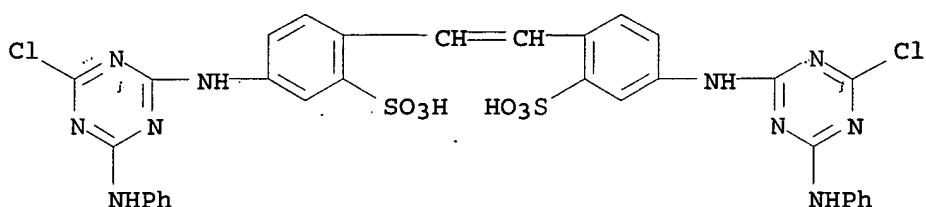


●2 Na

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



●2 Na

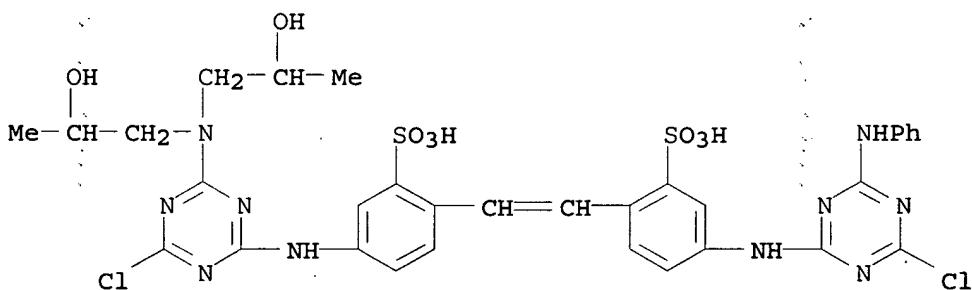
RN 697768-20-0 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, compd. with 5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-19-7

CMF C32 H32 Cl2 N10 O8 S2 . 2 Na

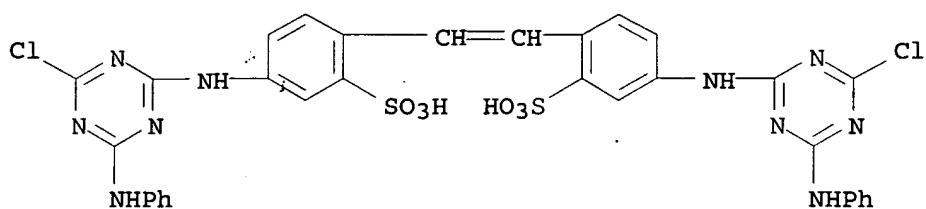


●2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

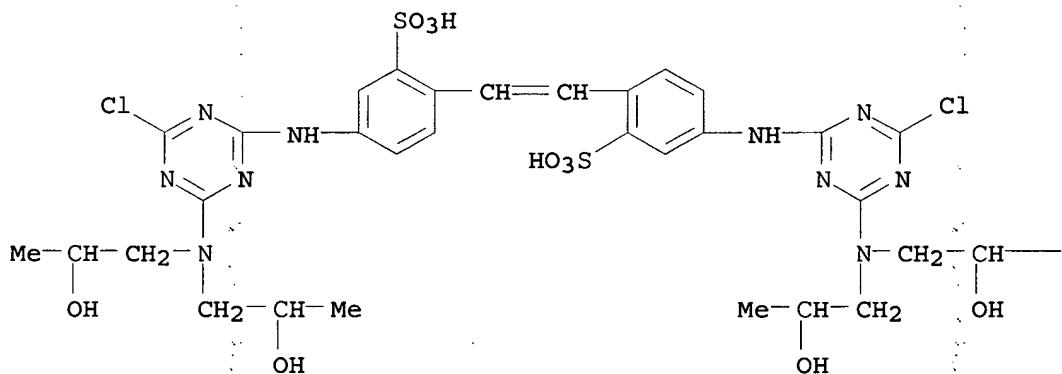


●2 Na

CM 3

CRN 13281-93-1
 CMF C32 H40 Cl2 N10 O10 S2 . 2 Na

PAGE 1-A



●2 Na

PAGE 1-B

— Me

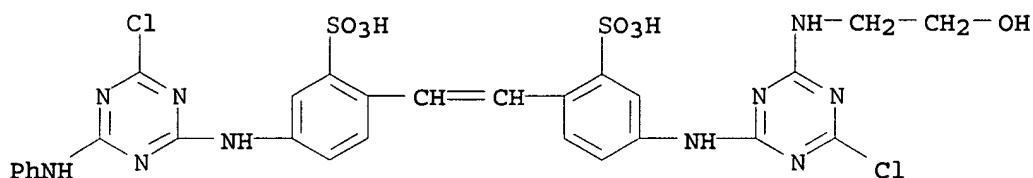
RN 697768-22-2 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-

hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt.
 with 5-[(4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-
 yl)amino]-2-[2-[4-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt
 and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-
 triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA
 INDEX NAME)

CM 1

CRN 697768-21-1

CMF C28 H24 Cl2 N10 O7 S2 . 2 Na



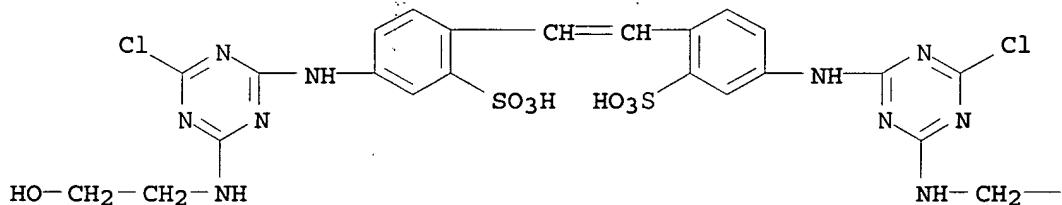
●2 Na

CM 2

CRN 52576-51-9

CMF C24 H24 Cl2 N10 O8 S2 . 2 Na

PAGE 1-A



●2 Na

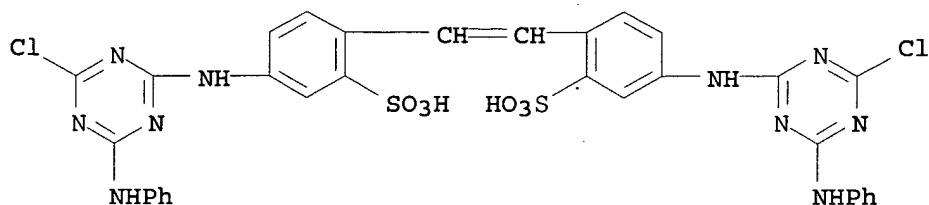
PAGE 1-B

— CH₂ — OH

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



●2 Na

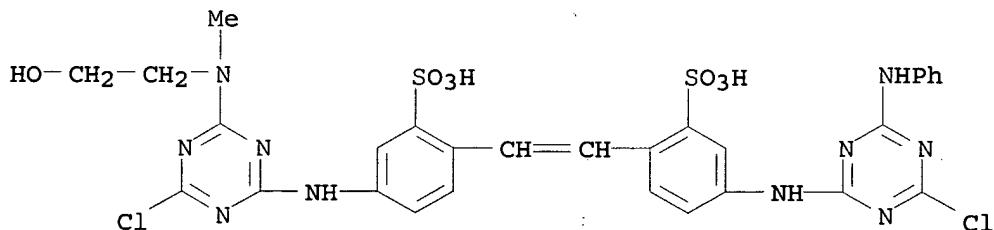
RN 697768-33-5 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(2-hydroxyethyl)methylamino]-1,3,5-triazin-2-yl]amino]-1,3,5-triazin-2-yl]amino]-2-[2-[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 697768-32-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na

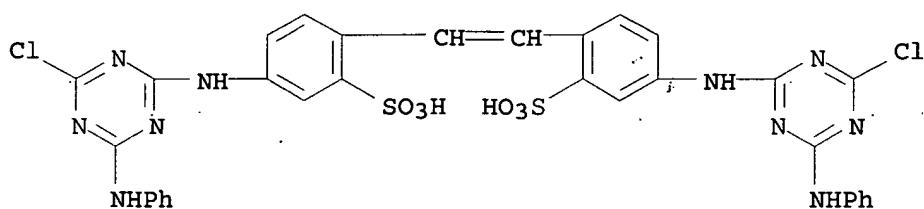


●2 Na

CM 2

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



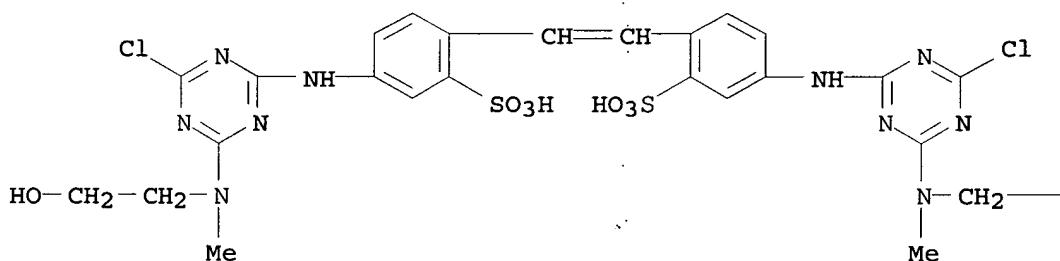
●2 Na

CM 3

CRN 25790-73-2

CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂ — OH

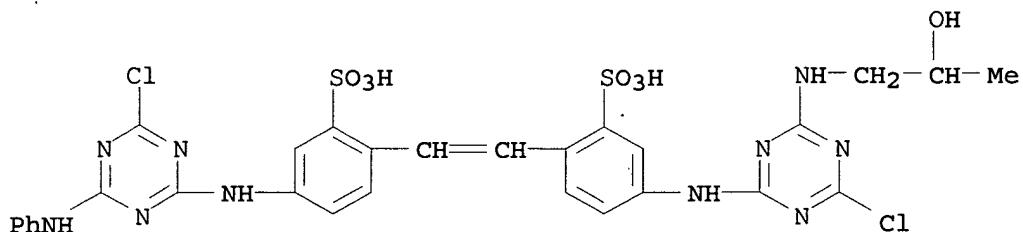
RN 697768-34-6 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt, mixt. with 5-[[4-chloro-6-[(2-hydroxypropyl)amino]-1,3,5-triazin-2-yl]amino]-2-[2-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid disodium salt and 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] disodium salt (9CI) (CA INDEX NAME)

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CRN 602304-31-4

CMF C29 H26 Cl2 N10 O7 S2 . 2 Na



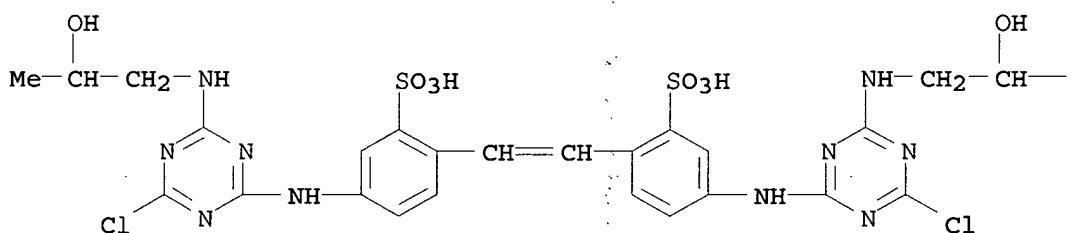
●2 Na

CM 2

CRN 602304-27-8

CMF C26 H28 Cl2 N10 O8 S2 . 2 Na

PAGE 1-A



●2 Na

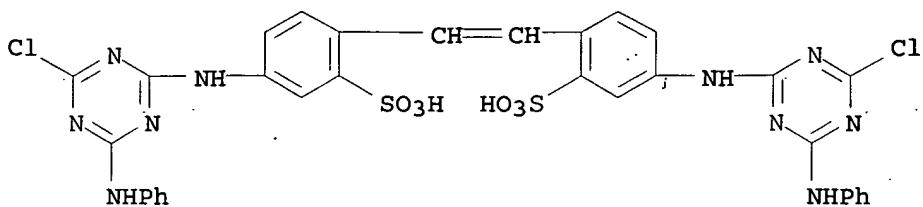
PAGE 1-B

— Me

CM 3

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na



●2 Na

- IC ICM C11D003-42
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 ST bistriazinylaminostilbene amphoteric fluorescent
 whitening agent paper
 IT Fluorescent brighteners
 Paper
 (amphoteric fluorescent whitening agents for
 paper)
 IT Whitening agents
 (fluorescent whitening; amphoteric
 fluorescent whitening agents for paper)
 IT 78-90-0, 1,2-Propylene diamine 78-96-6, 1-Aminopropan-2-ol
 81-11-8 100-36-7 104-75-6, 2-Ethyl-1-hexylamine 104-78-9,
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 110-91-8, Morpholine, reactions 111-40-0, Diethylene triamine
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 37138-23-1 52205-59-1 52576-51-9
213910-64-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)
 IT 28950-66-5P 602304-27-8P 697768-38-0P
 697768-42-6P 697768-49-3P 697768-51-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (amphoteric fluorescent whitening agents for
 paper)
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 RL: SPN (Synthetic preparation); PREP (Preparation)
 (amphoteric fluorescent whitening agents for
 paper)

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RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (amphoteric fluorescent whitening agents for paper)

L40 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:678928 HCAPLUS

DOCUMENT NUMBER: 139:216187

TITLE: Process for the treatment of textile fiber materials with fluorescent brighteners

INVENTOR(S): Kaschig, Juergen; Hochberg, Robert; Becherer, Oliver; Metzger, Georges; Eckhardt, Claude

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003070869	A1	20030828	WO 2003-EP1618	200302 18

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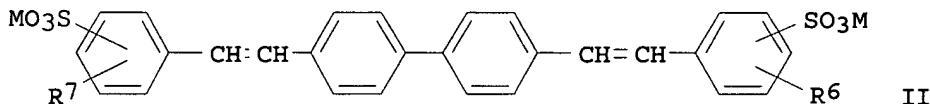
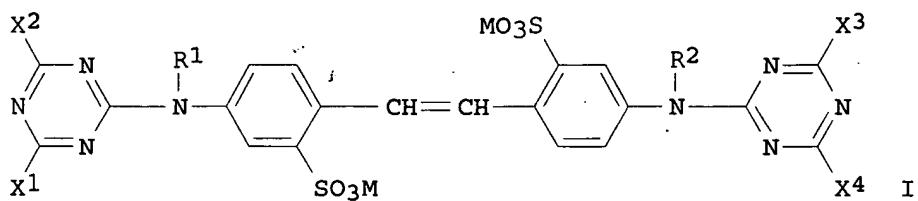
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EP 1478724	A1	20041124	EP 2003-706527	200302
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
EP 1485460	A1	20041215	EP 2003-702652	200302
				18
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1596299	A	20050316	CN 2003-801604	200302
				18
CN 1596300	A	20050316	CN 2003-801616	200302
				18
JP 2005517800	T2	20050616	JP 2003-569763	200302
				18
JP 2005517801	T2	20050616	JP 2003-569764	200302
				18
ZA 2004002941	A	20050111	ZA 2004-2941	200404
				19
ZA 2004002942	A	20050112	ZA 2004-2942	200404
				19
PRIORITY APPLN. INFO.:			EP 2002-405136	A
				200202
				25
			EP 2002-405876	A
				200210
				11
			WO 2003-EP1618	W
				200302
				18
			WO 2003-EP1619	W
				200302
				18

OTHER SOURCE(S) : MARPAT 139:216187
GI



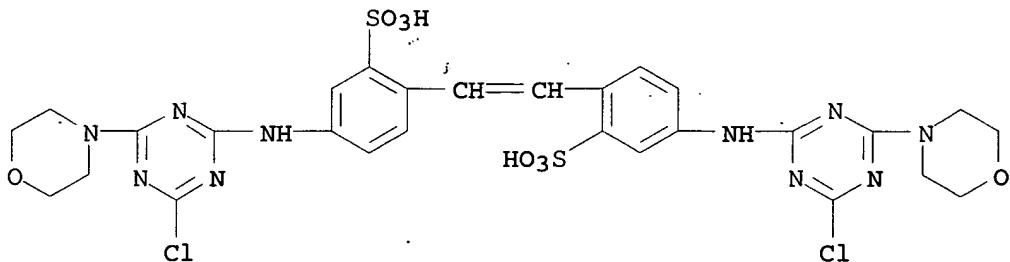
AB Laundry detergent compn. comprises (i) 1-70% of an anionic surfactant and/or a nonionic surfactant; (ii) 0-75% of a builder; (iii) 0-30% of a peroxide; (iv) 0-10% of a peroxide activator; and (v) 0.001-5% of a mixt. of compds. of formulas I and II of improved whitening property. Wherein a fluorescent whitening agent is of formula I, in which R1 and R2 are, independently of each other, hydrogen or unsubstituted or substituted C1-C8alkyl, X1, X2, X3 and X4 are, independently of each other, -N(R3)R4 or -OR5, wherein R3 and R4 are hydrogen, cyano, unsubstituted or substituted C1-C8alkyl or C5-C7cycloalkyl, or R3 and R4, together with the nitrogen atom linking them, form a heterocyclic ring, and R5 is unsubstituted or substituted C1-C8alkyl, and M is hydrogen or a cation. Wherein a fluorescent whitening agent is of formula I, in which R6 and R7, independently of each other, are hydrogen, C1-C8alkyl, C1-C8alkoxy or halogen, and M is as defined above under formula I. The textile fiber materials are treated with 0.05 to 3.0% by wt., based on the wt. of the textile fiber material, of the compd. of formula I, for enhanced whiteness.

IT 28950-66-5 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(laundry detergent contg. fluorescent
brighteners)

RN 28950-66-5 HCPLUS

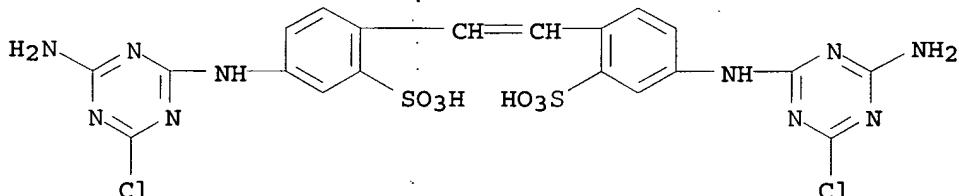
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 52205-59-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-], disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C11D003-42

ICS C11D003-386

CC 46-5 (Surface Active Agents and Detergents)

ST fluorescent brightener laundry detergent
bleaching

IT Detergents
(bleaching; laundry detergent contg. fluorescent
brighteners)

IT Textiles
(cotton; laundry detergent contg. fluorescent
brighteners)

IT Polyamide fibers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fabrics; laundry detergent contg. fluorescent
brighteners)

IT Fluorescent brighteners
(laundry detergent contg. fluorescent
brighteners)

IT Detergents
(laundry; laundry detergent contg. fluorescent
brighteners)

IT Textiles
(wool; laundry detergent contg. fluorescent
brighteners)

IT 75-04-7, Ethylamine, reactions 108-77-0, Cyanuric chloride

110-73-6, 2-Ethylaminoethanol 110-91-8, Morpholine, reactions
 141-43-5, Ethanolamine, reactions 7336-20-1 27076-29-5
28950-66-5 52205-59-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (laundry detergent contg. fluorescent
 brighteners)
 IT 3654-77-1P 586962-95-0P 586962-96-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (laundry detergent contg. fluorescent
 brighteners)
 IT 5108-90-7P 586962-94-9P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (laundry detergent contg. fluorescent
 brighteners)
 IT 4470-72-8 20182-55-2 25295-51-6 27344-41-8 87777-77-3
 457883-29-3 586962-98-3 586962-99-4 586963-00-0 586963-01-1
 586963-02-2 586963-03-3 586963-04-4 586963-05-5 586963-06-6
 586963-07-7 586963-08-8 586963-09-9 586963-10-2 586963-11-3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (laundry detergent contg. fluorescent
 brighteners)

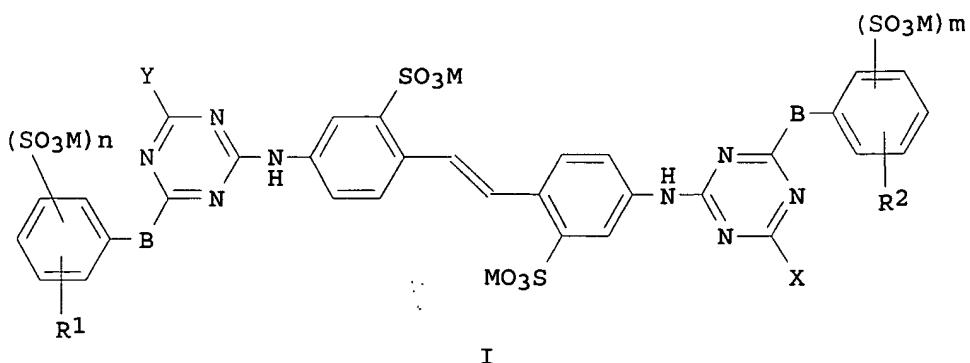
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L40 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:417933 HCAPLUS
 DOCUMENT NUMBER: 139:8132
 TITLE: Improvements relating to optical
 brighteners useful for paper
 INVENTOR(S): Jackson, Andrew Clive
 PATENT ASSIGNEE(S): Clariant International Ltd., Switz.
 SOURCE: PCT Int. Appl., 37 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2003044275	A1	20030530	WO 2002-IB4807	200211 18
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2456908	AA	20030530	CA 2002-2456908	200211

AU 2002347452	A1	20030610	AU 2002-347452	18
EP 1448853	A1	20040825	EP 2002-783386	200211 18
BR 2002014268	A	20040921	BR 2002-14268	200211 18
CN 1589352	A	20050302	CN 2002-823096	200211 18
JP 2005509735	T2	20050414	JP 2003-545885	200211 18
ZA 2004001324	A	20050310	ZA 2004-1324	200402 18
US 2005022320	A1	20050203	US 2004-496190	200405 19
NO 2004002534	A	20040823	NO 2004-2534	200406 17
PRIORITY APPLN. INFO.:			GB 2001-27903	A 200111 21
			WO 2002-IB4807	W 200211 18

OTHER SOURCE(S) : MARPAT 139:8132
GI



AB The present invention relates to the use of compds. of I [R1, R2 = H, halogen, (substituted) C1-6 alkyl or alkoxy; B = O, NR3; R3 = H, (substituted) C1-4 alkyl; X: halogen preferably F or Cl; Y =

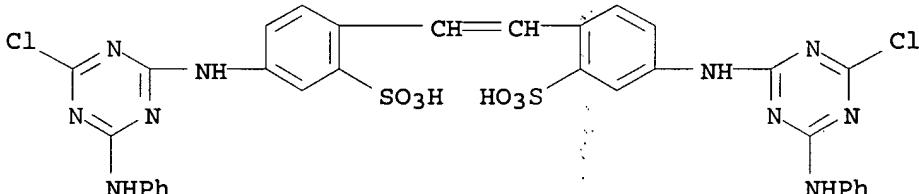
halogen, OR₄, SR₄ or NR₄R₅; R₄ = (substituted) C₁₋₆ alkyl, phenyl; R₅ = H, (substituted) C₁₋₆ alkyl where R₄ and R₅ together with N can form a pyrrolidinyl, piperidinyl or morpholinyl radical; n, m = 0, 1, 2; M = cation] as optical brighteners as well as to new mixts. of optical brighteners. Thus, a soln. of 21.3 parts aniline-2,5-disulfonic acid and 6.7 parts NaOH in 30 parts water is added to a stirred suspension of 15.5 parts cyanuric chloride in 50 parts ice water. The pH is kept at 6 by the dropwise addn. of 30% NaOH. The mixt. is stirred below 10° until primary arom. amine groups can no longer be detected by the diazo reaction. A soln. of 14.8 parts 4,4'-diaminostilbene-2,2'-disulfonic acid and 3.2 parts NaOH in 20 parts water is then added, the pH is adjusted to between 6.5 and 7.5 by the addn. of 30% NaOH and the mixt. is stirred at 30° until a neg. diazo reaction is obtained. A soln. of 5.3 parts L-aspartic acid in 10 parts 16% NaOH is added, and the mixt. is heated at reflux for 6 h, the pH being kept at 7.5 to 8.5 by the addn. of Na₂CO₃. The soln. is dild. to 320 parts with water to give a clear soln. contg. a mixt. of optical brighteners.

IT 37138-23-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of optical brighteners for paper and paperboard)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM D21H021-30
ICS C07D251-68

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 43

ST cyanuric chloride anilinesulfonic acid condensation product optical brightener papermaking

IT Fluorescent brighteners

Paper

Paperboard

Textiles

(manuf. of optical brighteners for paper and paperboard)

IT Polyamide fibers, miscellaneous

Polyurethane fibers

Rayon, miscellaneous

RL: MSC (Miscellaneous)

(manuf. of optical brighteners for paper and
paperboard)

IT 4193-55-9P 37138-23-1P 142050-95-1P 533926-02-2P
533926-03-3P 533926-04-4P 533926-05-5P 533926-06-6P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of optical brighteners for paper and
paperboard)

IT 56-84-8, L-Aspartic acid, reactions 62-53-3, Aniline, reactions
67-56-1, Methanol, reactions 81-11-8, 4,4'-Diaminostilbene-2,2'-
disulfonic acid 98-44-2, Aniline-2,5-disulfonic acid 108-77-0,
Cyanuric chloride 111-42-2, Diethanolamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of optical brighteners for paper and
paperboard)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L40 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:549263 HCAPLUS

DOCUMENT NUMBER: 131:171518

TITLE: Preparation of 4,4-bis(triazinylamino)-stilbene-
2,2'-disulfonic acid compounds and
compositions containing them

INVENTOR(S): Metzger, Georges; Cuesta, Fabienne; Rohringer,
Peter; Reinehr, Dieter; Schlatter, Rene

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

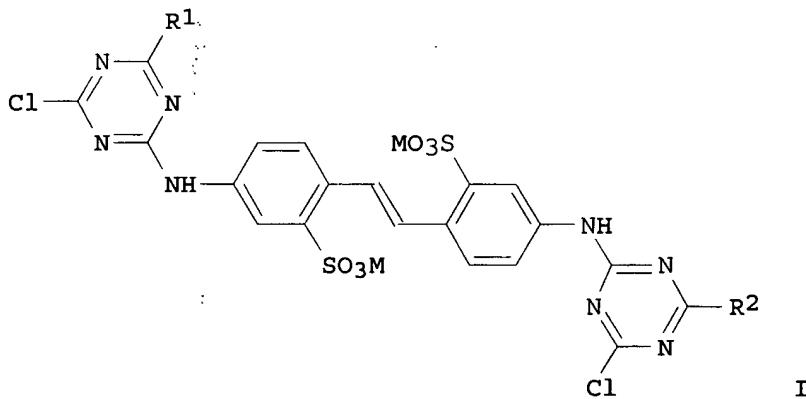
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942454	A1	19990826	WO 1999-EP950	199902 13
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2319641	AA	19990826	CA 1999-2319641	199902 13
AU 9928337	A1	19990906	AU 1999-28337	199902 13
AU 759897 BR 9908116	B2 A	20030501 20001031	BR 1999-8116	199902 13
EP 1054873	A1	20001129	EP 1999-908890	199902 13

EP 1054873	B1	20040922	199902 13
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE, PT, FI			
JP 2002503727	T2	20020205 JP 2000-532406	
RU 2241703	C2	20041210 RU 2000-124270	199902 13
ES 2228013	T3	20050401 ES 1999-908890	199902 13
IL 137534	A1	20050831 IL 1999-137534	199902 13
US 6365737	B1	20020402 US 2000-622472	200008 17
PRIORITY APPLN. INFO.:		EP 1998-810140	A
			199802 20
		WO 1999-EP950	W
			199902 13

OTHER SOURCE(S) : MARPAT 131:171518
GI



AB 4,4'-Bis-(triazinylamino)-stilbene-2,2'-disulfonic acid compd. I is prep'd. by reacting a disodium salt of 4,4'-diaminostilbene-2,2'-disulfonic acid with cyanurchloride to form a intermediate; (b) reacting the intermediate with a compd. R1H and/or R2H, and (c) then reacting the resulting product with a compd. R3H, (R1, R2 and R3 = (un)substituted phenylamino, CONHR, SO2NHR, NHCOR, mono- or disulfonated phenylamino, morpholino, piperidino, pyrrolidino, -NH2, -NH(C1-4 alkyl), -N(C1-4 alkyl)2, -NH(C2-4 hydroxyalkyl), -N(C2-4 hydroxyalkyl)2, -N(C1-4 alkyl)(C2-4 hydroxyalkyl), NHC2-4 alkylsulfonic acid, -OC1-4alkyl, an amino acid or amino acid amide

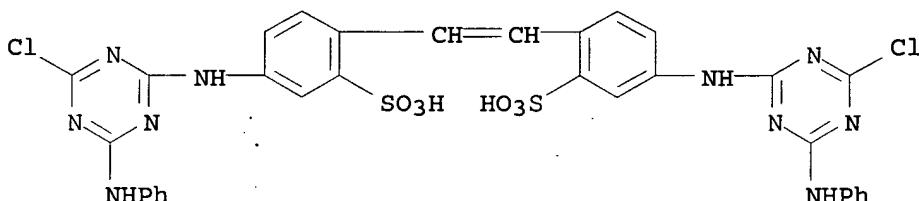
residue; R1, R2 = H; C1-4 alkyl, (un)substituted Ph, (un)substituted naphthyl; R = H, C1-3 alkyl; and M = H, metal, and (un)substituted ammonium) wherein reaction step (a) and/or (c) are carried out in a medium contg. water and a polyglycol. The compds. or their compns. are useful as brightening agents and sun protection agents for textile, paper, etc.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as brightening agents and sun protection agents for textile and paper)

RN 37138-23-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C07D251-68
ICS D06L003-12

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 43, 46

ST triazinylaminostilbene disulfonic acid brightening agent
paper; sun protection agent textile triazinylaminostilbene
disulfonate

IT Detergents

Paper

Solvents

Textiles

(prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
compds. as brightening agents and sun protection agents
for)

IT UV stabilizers

Whitening agents

(prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
compds. as brightening agents and sun protection agents
for textile and paper)

IT Polyoxyalkylenes, uses

RL: NUU (Other use, unclassified); USES (Uses)

(solvent; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-
disulfonic acid compds. as brightening agents and sun
protection agents for textile and paper)

IT Glycols, uses

RL: NUU (Other use, unclassified); USES (Uses)

(solvents; prepn. of 4,4-bis(triazinylamino)-stilbene-2,2'-
disulfonic acid compds. as brightening agents and sun
protection agents for)

IT 133-66-4P 4193-55-9P 31900-04-6P 238419-95-9P 238419-96-0P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as brightening agents and sun protection agents for textile and paper)

IT 7732-18-5, Water, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvent; prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as brightening agents and sun protection agents for)

IT 143-22-6 25322-68-3
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvent; prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as brightening agents and sun protection agents for textile and paper)

IT 62-53-3, Benzenamine, reactions 74-89-5, Methylamine, reactions 81-11-8, 4,4'-Diaminostilbene-2,2'-disulfonic acid 108-77-0, Cyanurchloride 111-42-2, reactions 37138-23-1
 114589-95-6, Aspartic acid, disodium salt 175391-30-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compds. as brightening agents and sun protection agents for textile and paper)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

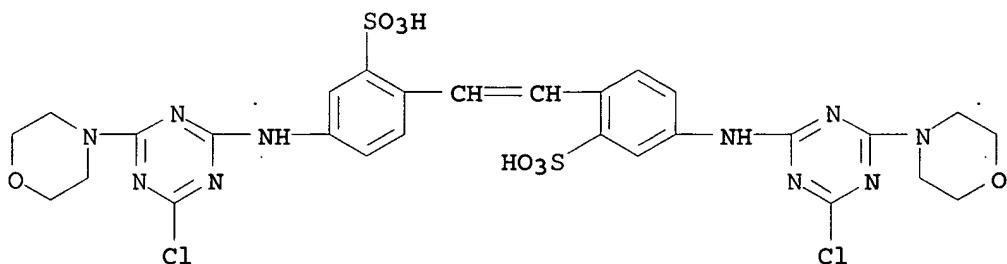
L40 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1998:485328 HCAPLUS
 DOCUMENT NUMBER: 129:154718
 TITLE: Ink jet printing method using two components
 INVENTOR(S): Takemoto, Kiyohiko
 PATENT ASSIGNEE(S): Seiko Epson Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 10193775	A2	19980728	JP 1997-5020	199701 14
PRIORITY APPLN. INFO.:			JP 1997-5020	199701 14

AB A jet-printing ink compn. and a soln. contg. a reactive agent and a fluorescent brightening agent are applied on a substrate to give a printed material. The method provides images with improved color formation and without color bleeding.

IT 28950-66-5, Whitex RP
 RL: MOA (Modifier or additive use); USES (Uses)
 (brightening agent; jet printing method using ink compn. and reactive agent compn. contg. fluorescent brightening agent)

RN 28950-66-5 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM B41M005-00
 ICS B41M005-00; C09D011-00
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 42
 ST ink jet printing two component; reactive agent sol ink jet printing; fluorescent brightening agent ink jet printing
 IT Ink-jet printing
 (jet printing method using ink compn. and reactive agent compn. contg. fluorescent brightening agent)
 IT Inks
 (jet-printing; jet printing method using ink compn. and reactive agent compn. contg. fluorescent brightening agent)
 IT 24019-80-5, Whitex SKC 28950-66-5,
 Whitex RP
 RL: MOA (Modifier or additive use); USES (Uses)
 (brightening agent; jet printing method using ink compn. and reactive agent compn. contg. fluorescent brightening agent)
 IT 10377-60-3, Magnesium nitrate 30551-89-4, PAA 10C
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reactive agent; jet printing method using ink compn. and reactive agent compn. contg. fluorescent brightening agent)

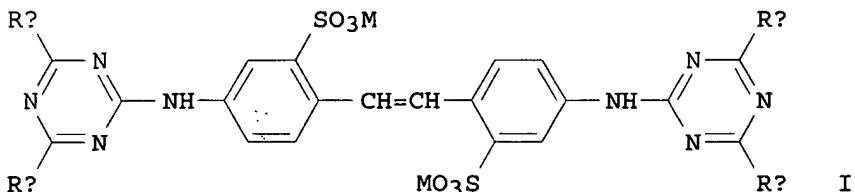
L40 ANSWER 8 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1998:466333 HCPLUS
 DOCUMENT NUMBER: 129:123760
 TITLE: Preparation of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers
 INVENTOR(S): Eckhardt, Claude; Metzger, Georges; Reinehr, Dieter; Sauter, Hanspeter; Dubini, Mario
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 850934	A1	19980701	EP 1997-810986	199712 16
EP 850934	B1	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
GB 2320714	A1	19980701	GB 1997-25501	199712 03
ES 2214601	T3	20040916	ES 1997-810986	199712 16
ZA 9711567	A	19980624	ZA 1997-11567	199712 23
AU 9749256	A1	19980625	AU 1997-49256	199712 23
AU 739556	B2	20011018		
CN 1191861	A	19980902	CN 1997-107278	199712 23
CN 1118461	B	20030820		
BR 9705635	A	19990518	BR 1997-5635	199712 23
US 5945396	A	19990831	US 1997-996895	199712 23
JP 10182622	A2	19980707	JP 1997-354922	199712 24
PRIORITY APPLN. INFO.:			GB 1996-26851	A 199612 24

OTHER SOURCE(S): MARPAT 129:123760
GI

AB The present invention provides a compd. having the formula [I; in which each Rd is the same or different and each is NH-Z-N(Ra)(Rb) or N-[Z-N(Ra)(Rb)]2 in which Z is C2-14 alkylene or optionally

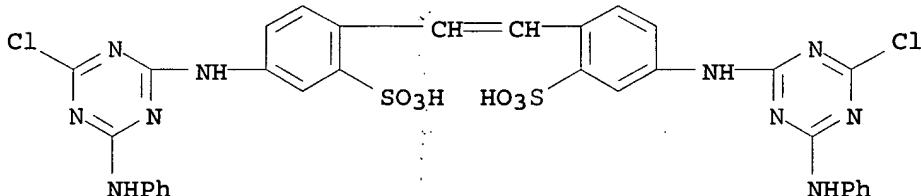
substituted arylene, Ra and Rb are the same or different and each is C1-12 alkyl, or Ra and Rb, together with the nitrogen atom to which they are each attached, form a morpholino, piperidino or piperazino ring; each Rc is the same or different and is NH₂, NH(C1-4 alkyl), N(C1-4 alkyl)₂, N(CH₂CH₂OH)₂, O-C1-4 alkyl, p-(MO₂C)C₆H₄NH, (MO₃S)C₆H₄NH, or morpholino and M is hydrogen, an alkali metal atom, ammonium or a cation formed from an amine] or a quaternized form thereof. The present invention also relates to a compn. for the treatment of textiles, in particular to a compn. contg. the new ultra-violet absorbing agents; and to a method for the improvement of both the sun protection factor (UPF) and the whiteness of textile fiber material, comprising treating the material with the compn. according to the present invention. Thus, I (Rd = Cl, Rc = NH₂, M = Na) was heated with 3-dimethylamino-1-propylamine in an oil bath held at 90° to give I [Rd = NH(CH₂)₃NMe₂, Rc = NH₂, M = Na] (II). A rinse cycle softener base compn. contg. 2.7% II, distearyldimethylammonium chloride, fatty alc. ethoxylate, and deionized water was prep'd. The latter compn. improved the Ganz whiteness and UPF of a cotton fabric.

IT 37138-23-1 52205-59-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of triazinylaminostilbenes as ultra-violet absorbing agents for textile fibers)

RN 37138-23-1 HCPLUS

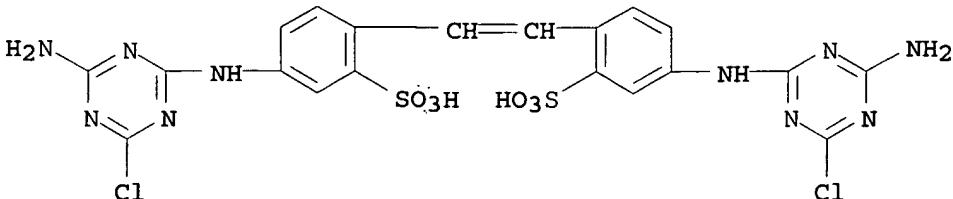
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 52205-59-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C07D251-54
 ICS D06M013-355
 CC 40-7 (Textiles and Fibers)
 IT Quaternary ammonium compounds, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (UV-absorbing compns. contg.; prepns. of
 triazinylaminostilbenes as ultra-violet absorbing agents for
 textile fibers)
 IT 51-05-8, Procaine hydrochloride 104-78-9, 3-Diethylamino-1-
 propylamine 108-00-9, 2-Dimethylaminoethylamine 109-01-3,
 1-Methylpiperazine 109-55-7, 3-Dimethylamino-1-propylamine
 123-12-6, N,N,N',N'-Tetraethyldiethylenetriamine 37138-23-1
 37138-25-3 52205-59-1 210102-12-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of triazinylaminostilbenes as ultra-violet absorbing
 agents for textile fibers)

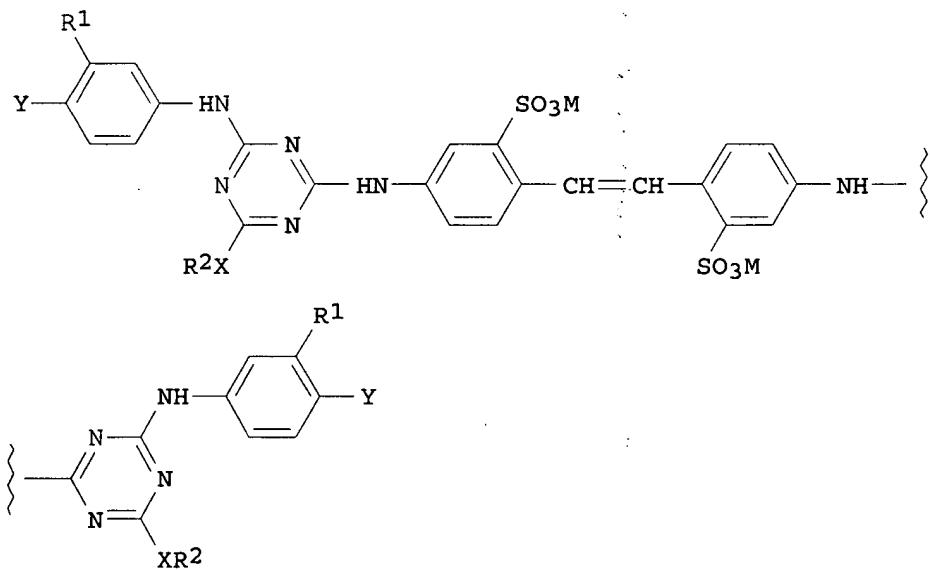
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L40 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1998:163376 HCAPLUS
 DOCUMENT NUMBER: 128:193689
 TITLE: Triazine derivatives as fluorescent
 whitening agents and UV absorbers and
 their use to increase the sun protection factor
 of textile material
 INVENTOR(S): Eckhardt, Claude; Reinehr, Dieter; Metzger,
 Georges; Sauter, Hanspeter
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 825188	A1	19980225	EP 1997-810334	199705 28
EP 825188	B1	20030129		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1254900	A2	20021106	EP 2002-17732	199705 28
EP 1254900	A3	20031203		
R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
ES 2189936	T3	20030716	ES 1997-810334	199705 28
GB 2316401	A1	19980225	GB 1997-10926	199705 29
AU 9724641	A1	19980226	AU 1997-24641	199706

AU 724335	B2	20000914		02
ZA 9704830	A	19980817	ZA 1997-4830	
				199706
				02
US 5939379	A	19990817	US 1997-867110	199706
				02
JP 10087638	A2	19980407	JP 1997-156399	199706
				13
BR 9703601	A	19980818	BR 1997-3601	199706
				17
PRIORITY APPLN. INFO.:			GB 1996-17322	A
				199608
				17
			EP 1997-810334	A3
				199705
				28

OTHER SOURCE(S) : MARPAT 128:193689
GI



AB The present invention relates to new compds. which are useful as UV absorbing agents (UVAs) and as fluorescent whitening agents (FWAs) for improving the sun protection factor (SPF) of textile fiber material, esp. cotton, polyamide and wool. The compds. have general structure I [M = H, alkali metal, ammonium, a cation formed from an amine; R1 = H, hydroxy; R2 = C1-4 alkyl, phenyl; Y = C(O)NR3R4, SO2NR3R4, C(O)R2, C(O)OM; R3, R4 = H, C1-4 alkyl; X = NH, O, or XR2 together as morpholino group]. The textiles can be treated by washing with a detergent contg. the

compds. of this invention.

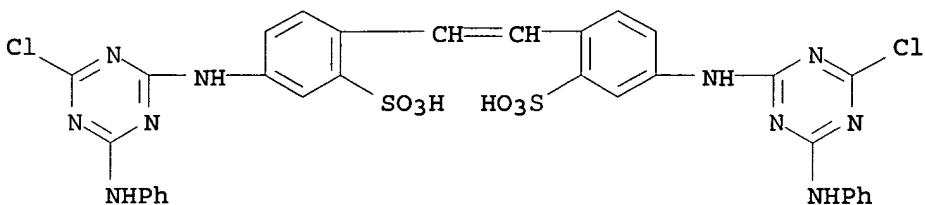
IT 37138-23-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of triazine derivs. as fluorescent whitening agents and UV absorbers for increasing the sun protection factor of textile material)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C07D251-68

ICS D06M013-00

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 46

ST textile whitening UV absorber; triazine deriv textile whitening UV absorber

IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(fatty alkyl ethers, detergent compn.; triazine derivs.

as fluorescent whitening agents and UV

absorbers for increasing the sun protection factor of textile material)

IT Textiles

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(linen; triazine derivs. as fluorescent

whitening agents and UV absorbers for increasing the sun

protection factor of textile material)

IT Soaps

RL: TEM (Technical or engineered material use); USES (Uses)

(sodium, detergent compn.; triazine derivs. as

fluorescent whitening agents and UV absorbers

for increasing the sun protection factor of textile material)

IT UV stabilizers

Whitening agents

(triazine derivs. as fluorescent whitening

agents and UV absorbers for increasing the sun protection factor of textile material)

IT Acrylic fibers, processes

Cotton

Polyamide fibers, processes

Polyester fibers, processes

Rayon, processes

Silk

Wool

RL: PEP (Physical, engineering or chemical process); PROC (Process) (triazine derivs. as fluorescent whitening agents and UV absorbers for increasing the sun protection factor of textile material)

IT 60-00-4, EDTA, uses 98-11-3D, Benzenesulfonic acid, alkyl derivs., sodium salts, uses 1343-88-0, Magnesium silicate 6834-92-0
7757-82-6, Sodium sulfate, uses 7758-29-4, Sodium tripolyphosphate 9004-32-4 25322-68-3D, fatty alkyl ethers

RL: TEM (Technical or engineered material use); USES (Uses) (detergent compn.; triazine derivs. as fluorescent whitening agents and UV absorbers for increasing the sun protection factor of textile material)

IT 200395-03-5P 203250-74-2P 203250-75-3P 203250-76-4P
203250-77-5P 203250-78-6P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (prepn. of triazine derivs. as fluorescent whitening agents and UV absorbers for increasing the sun protection factor of textile material)

IT 37138-23-1P 203250-73-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (prepn. of triazine derivs. as fluorescent whitening agents and UV absorbers for increasing the sun protection factor of textile material)

IT 62-53-3, Benzenamine, reactions 63-74-1, Sulfanilamide 74-89-5, Methylamine, reactions 99-92-3 108-77-0, Cyanuric chloride 110-91-8, Morpholine, reactions 133-10-8, Sodium 4-aminosalicylate 6274-22-2 7336-20-1, Disodium 4,4'-diaminostilbene-2,2'-disulfonate

RL: RCT (Reactant); RACT (Reactant or reagent) (prepn. of triazine derivs. as fluorescent whitening agents and UV absorbers for increasing the sun protection factor of textile material)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 10 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1996:674048 HCPLUS
 DOCUMENT NUMBER: 125:303742
 TITLE: Manufacture of 4,4'-bis[(6-anilino-s-triazin-2-yl)aminostilbene-2,2'-disulfonic acid derivatives as optical brighteners
 INVENTOR(S): Zwierzynski, Krzysztof; Tarwacki, Andrzej;
 Rudzinska, Benita; Higersberger, Ewa;
 Malasnicki, Wladyslaw L.; Maleska, Barbara;
 Kalinowski, Jan; Nowacki, Andrzej; Guzewska, Teresa
 PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.
 SOURCE: Pol., 6 pp.
 CODEN: POXXA7
 DOCUMENT TYPE: Patent
 LANGUAGE: Polish
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PL 164830

B1 19941031

PL 1990-288012

199011

28

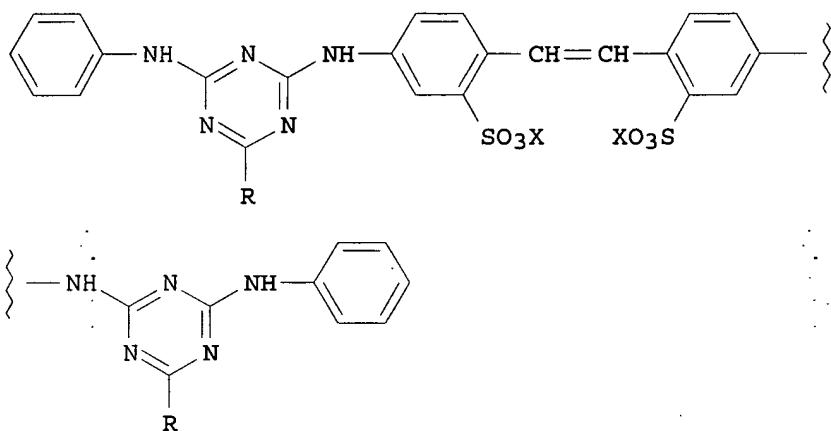
PRIORITY APPLN. INFO.:

PL 1990-288012

199011

28

GI



AB The title compds. [I; R = NPh, morpholino, X = Na; or R = N(CH₂CH₂OH)₂, X = H] were prep'd. by 3-step procedure comprising (1) condensation of cyanuric chloride (II) with PhNH₂ followed by (2) condensation of the resulting intermediate with di-Na 4,4'-diaminostilbene-2,2'-disulfonate (III) and (3) further condensation with morpholine, PhNH₂ or HN(CH₂CH₂OH)₂ in the presence of Na₂CO₃ and/or NaOH in an aq. alc., under specified conditions. For example, 488 parts of aq. PrOH soln. contg. 132 PhNH₂ was added over 30 min to 1335.4 parts of aq. suspension of 258 g II, the mixt. was stirred for 1 h, and the pH was adjusted to 2.5 at 25° using 423 parts aq. soln. contg. 85 parts Na₂CO₃. After PhNH₂ reacted completely, 1373 g of aq. soln. contg. 240 parts III was added over 15 min to the above mixt. followed by 343 parts aq. soln. contg. 69 parts Na₂CO₃ (over 20-30 min) to raise the pH to 6.2, the mixt. was heated to 70-75° and stirred for 1-1.5 h to give a suspension of di-Na 4,4'-bis[(6-anilino-4-chloro-s-triazin-2-yl)amino]stilbene-2,2'-disulfonate. This was treated with 123 parts morpholine and the whole refluxed for 3 h and neutralized with 486 g aq. soln. contg. 74 g NaOH to give 563 parts I (R = morpholino, X = Na) in β-cryst. form.

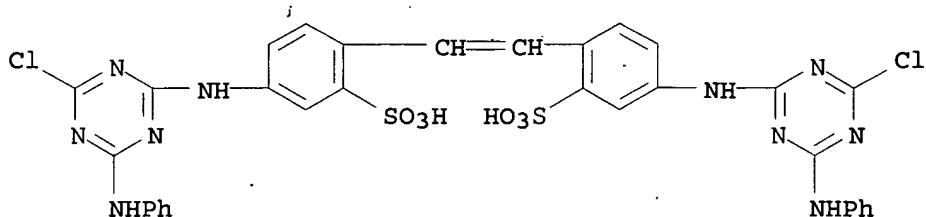
IT 37138-23-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. and amination with morpholine; manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid derivs. as optical brighteners)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-

(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

- IC ICM C07D251-68
ICS C07D413-04
- CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 40
- ST cyanuric chloride condensation aniline optical **brightener**;
anilinochlorotriazinylaminostilbenedisulfonate manuf amination
morpholine optical **brightener**;
anilinotriazinylaminostilbenedisulfonic acid deriv manuf optical
brightener
- IT **Fluorescent brighteners**
(manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid
derivs. as optical **brighteners**)
- IT 62-53-3, Aniline, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amination of cyanuric chloride; manuf. of bis[(anilino-s-
triazinyl)amino]stilbenedisulfonic acid derivs. as optical
brighteners)
- IT 108-77-0, Cyanuric chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(amination with aniline; manuf. of bis[(anilino-s-
triazinyl)amino]stilbenedisulfonic acid derivs. as optical
brighteners)
- IT 7336-20-1, Disodium 4,4'-diaminostilbene-2,2'-disulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction with cyanuric chloride-aniline adduct;
manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid
derivs. as optical **brighteners**)
- IT 110-91-8, Morpholine, reactions 111-42-2, Diethanolamine,
reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction with di-Na 4,4'-bis[(6-anilino-4-chloro-s-
triazin-2-yl)amino]stilbene-2,2'-disulfonate; manuf. of
bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid derivs. as
optical **brighteners**)
- IT 37138-23-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(manuf. and amination with morpholine; manuf. of
bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid derivs. as
optical **brighteners**)
- IT 133-66-4P 4404-43-7P 16090-02-1P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of bis[(anilino-s-triazinyl)amino]stilbenedisulfonic acid

derivs. as optical brighteners)

L40 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:215255 HCAPLUS
 DOCUMENT NUMBER: 110:215255
 TITLE: Detergent compositions for washing
 white wall parts of bicycle tires
 INVENTOR(S): Kijima, Tetsuo; Shinohara, Shogo; Sawada,
 Shigeru
 PATENT ASSIGNEE(S): Taiho Industries Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63248898	A2	19881017	JP 1987-82879	198704 06
JP 07076358	B4	19950816	JP 1987-82879	198704 06
PRIORITY APPLN. INFO.:				

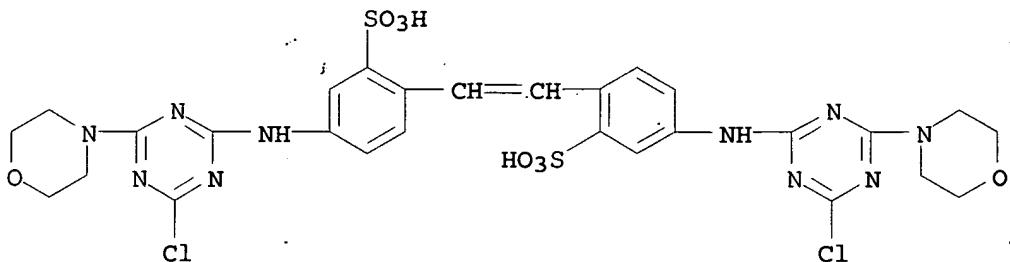
AB The title compns. contain 0.01-5.0% oil-sol. fluorescent brighteners and 95.0-99.99% polar solvents (b.p. $\leq 150^\circ$). Thus, discolored white wall of a bicycle tire was washed using a detergent contg. 4.0% Hakkol S 100 (fluorescent brightener) and 96.0% Et Cellosolve to show excellent detergency and restaining resistance.

IT 28950-66-5, Whitex RP

RL: USES (Uses)
 (fluorescent brightener, cleaning
 compns. contg., for white wall parts of bicycle
 tires)

RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC ICM C11D007-60
 ICI C11D007-60, C11D007-50, C11D007-00
 CC 46-6 (Surface Active Agents and Detergents)
 Section cross-reference(s): 39
 ST bicycle tire detergent **fluorescent brightener**;
 polar solvent detergent tire
 IT **Fluorescent brighteners**
 (oil-sol., detergents contg., for cleaning white wall
 parts of bicycle tires)
 IT Tires
 (bicycle, compns. for cleaning white wall
 parts of, contg. **fluorescent brighteners**)
 IT Vehicles
 (bicycles, tires, compns. for cleaning white
 wall parts of, contg. **fluorescent brighteners**
)
 IT Detergents
 (cleaning compns., contg. **fluorescent
 brighteners**, for white wall parts of bicycle
 tires)
 IT 67-63-0, Isopropanol, uses and miscellaneous 76-13-1, Freon 113
 109-86-4, Methyl cellosolve 110-80-5, Ethyl cellosolve
 RL: USES (Uses)
 (detergents contg. **fluorescent brighteners**
 and, for white wall parts of bicycle tires)
 IT 91-44-1, 4-Methyl-7-(diethylamino)coumarin
 RL: USES (Uses)
 (**fluorescent brightener**, Hakkol P, cleaning
 compns. contg., for white wall parts of bicycle
 tires)
 IT 3426-43-5, Whitex BF 28950-66-5, Whitex
 RP 120797-63-9, Hakkol S 100
 RL: USES (Uses)
 (**fluorescent brightener**, cleaning
 compns. contg., for white wall parts of bicycle
 tires)

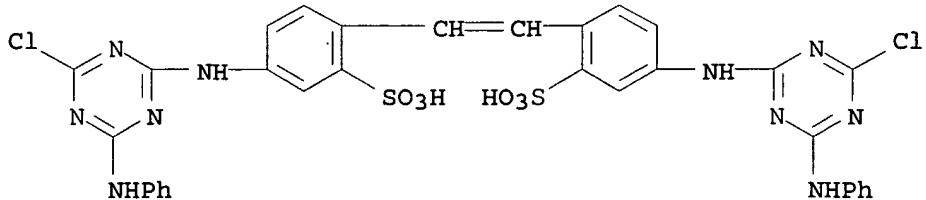
L40 ANSWER 12 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1984:8519 HCPLUS
 DOCUMENT NUMBER: 100:8519
 TITLE: Readily wettable white form of sodium
 4,4'-bis(6-morpholino-4-anilinotriazin-2-
 ylamino)stilbene-2,2'-disulfonate

INVENTOR(S): Pirkl, Jaromir; Podstata, Jiri
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 3 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
CS 209395	B	19811130	CS 1980-2230	198003 31
PRIORITY APPLN. INFO.:			CS 1980-2230	A 198003 31

AB A purer product was prep'd. by condensing the components in the presence of a surfactant which facilitated washing out of by-products. Thus, a steel autoclave was charged with 46% aq. paste of Na 4,4'-bis(5-chloro-4-anilinotriazin-2-ylamino)stilbene-2,2'-disulfonate [37138-23-1] 220, water 800, Synferol AH [12774-37-7] (sulfated oleic acid ester) 10, morpholine [110-91-8] 50, and concd. aq. NaOH 25 parts, heated in 1 h to 130°, stirred 1 h, and allowed to cool to 95°. The resulting suspension was filtered hot, and the paste was washed with 500 parts 0.5% aq. Na₂CO₃ and treated with 10 parts Abeson NAM (C₁₂H₂₅C₆H₄SO₃Na) [25155-30-0] to give a thick liq. which was evapd. in a fluidized bed. The obtained conc. (210 parts) of the title compd. [16090-02-1] was readily wettable even after homogenizing with 490 parts Na₂CO₃.

IT 37138-23-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with morpholine, in presence of surfactant)
 RN 37138-23-1 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC D06L003-12
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 ST stilbene fluorescent whitener wettable;
 aminostilbene fluorescent whitener wettable;

triazinylaminostilbene fluorescent whitener;
 wettability stilbene fluorescent whitener;
 surfactant fluorescent whitener synthesis
 IT **Fluorescent brighteners**
 (bis[(anilinomorpholinotriazinyl)amino]stilbenedisulfonic acid
 disodium salt, manuf. of, in pure and easily wettable form)
 IT **Surfactants**
 (sulfated oleic acid esters, stilbene fluorescent
 brightener manuf. in presence of, for improved purity)
 IT 16090-02-1P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (fluorescent brightener, manuf. of, in pure
 and easily wettable form)
 IT 37138-23-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with morpholine, in presence of surfactant)
 IT 25155-30-0
 RL: USES (Uses)
 (stilbene fluorescent brightener
 compn. contg., wettable)
 IT 112-80-1D, esters, sulfated 12774-37-7
 RL: USES (Uses)
 (surfactants, stilbene fluorescent brightener
 manuf. in presence of, for improved purity)

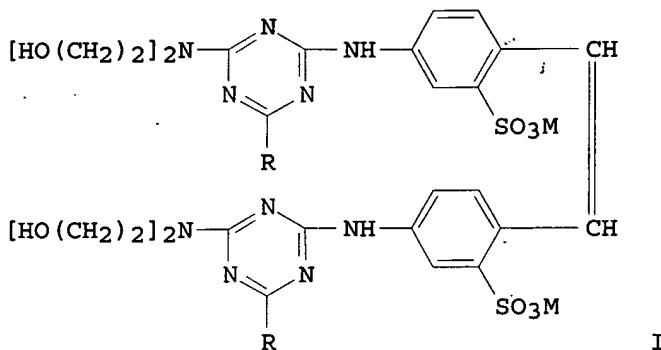
L40 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:8518 HCAPLUS
 DOCUMENT NUMBER: 100:8518
 TITLE: **Fluorescent brightener**
 soluble in an acid medium
 INVENTOR(S): Prejmereanu, Ioan; Barbu, Mihai; Stoenescu,
 Caterian, Ivan, Florica
 PATENT ASSIGNEE(S): Intreprinderea de Medicamente si Coloranti
 "Sintofarm", Rom.
 SOURCE: Rom., 3 pp.
 CODEN: RUXXA3
 DOCUMENT TYPE: Patent
 LANGUAGE: Romanian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

RO 79484	B	19830429	RO 1980-100715	198004 04
PRIORITY APPLN. INFO.:			RO 1980-100715	198004 04

GI



AB **Fluorescent brightener I** ($R = p\text{-NaO}_3\text{SC}_6\text{H}_4\text{O}$, $M = \text{Na}$) (**II**) [73398-53-5] is manufd. by reaction of **I** ($R = \text{Cl}$, $M = \text{H}$) (**III**) [4028-32-4] with *p*-hydroxybenzenesulfonic acid (**IV**) [98-67-9] at 100° and pH 8. Thus, a soln. contg. 8.5 parts 4,4'-diaminostilbene-2,2'-disulfonic acid [81-11-8] at pH 7 and concn. 80 g/L was added in 2-3 h to a suspension contg. cyanuric chloride [108-77-0] 18.45, ice 100, and water 50 parts, and the mixt. was neutralized to pH 6.5 at 8-10° with 10% aq. Na_2CO_3 . After complete disappearance of free amine, 10.5 parts diethanolamine [111-42-2] was added, and the reaction mixt. was heated 5 h at 35-40° and pH 7.5-8 (NaOH) and salted out with 10% aq. NaCl to give **III**. A paste of **III** was heated 5 h at 100° and pH 8 (NaOH) with 17.4 parts **IV** to give 80 parts **II**.

IT 4028-32-4P

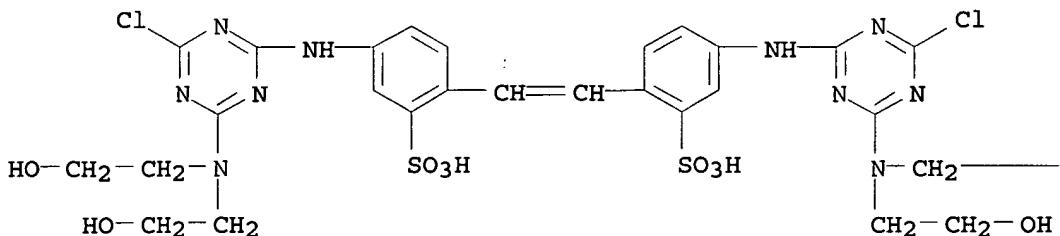
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, with hydroxybenzenesulfonic acid)

RN 4028-32-4 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

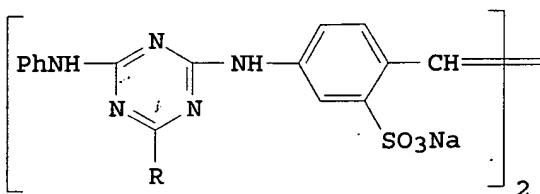
— CH₂— OH

IC C09B027-02; B06L003-12
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 25, 28
 ST acid soluble fluorescent brightener;
 triazinylstilbene fluorescent brightener acid soluble; stilbene fluorescent brightener acid soluble; diethanolamine fluorescent brightener acid soluble; sulfophenoxy fluorescent brightener acid soluble
 IT Fluorescent brighteners
 (bis[[[bis(hydroxyethyl)amino](sulfophenoxy)triazinyl]amino]stilbene disulfonic acid tetra-Na salt, acid-sol., manuf. of)
 IT 73398-53-5
 RL: USES (Uses)
 (fluorescent brightener, acid-sol.)
 IT 4028-32-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and reaction of, with hydroxybenzenesulfonic acid)

L40 ANSWER 14 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1982:69047 HCPLUS
 DOCUMENT NUMBER: 96:69047
 TITLE: White form sodium 4,4'-bis(6-morpholino-4-anilinotriazinyl-2-amino)stilbene-2,2'-disulfonate
 INVENTOR(S): Pirkl, Jaromir; Fisar, Ctibor
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 3 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CS 189499	B	19790430	CS 1977-6020	197709 16
PRIORITY APPLN. INFO.:			CS 1977-6020	A 197709 16

GI



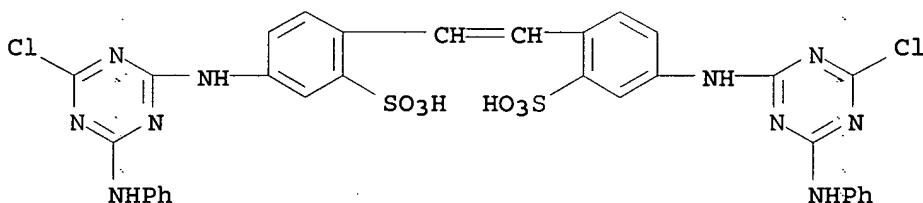
AB The title compd. (I; R = morpholino) was prep'd. by mixing a 46% wet paste of I (R = Cl) with H₂O, heating to 60°, adding morpholine, and keeping the mixt. 30 min at 60°. Subsequently 30% NaOH soln. and a 35% paste of I from the preceding run are added and the mixt. is heated with steam to 100° and kept until the yellowish suspension turns pure white (15-75 min). The product is stabilized by adding NaCl and Na₂S₂O₄, stirring, filtering hot, and drying. I is an additive to laundry agents for cotton.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC C07C039-18

CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))

ST triazinamine stilbene deriv; whitening agent triazineamine stilbene deriv

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

L40 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:182569 HCAPLUS

DOCUMENT NUMBER: 92:182569

TITLE: Liquid sodium 4,4'-bis(6"-anilino-4"-hydroxyethyltaurinotriazinyl-2"-amino)stilbene-2,2'-disulfonate

INVENTOR(S): Pirkl, Jaromir

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 2 pp.

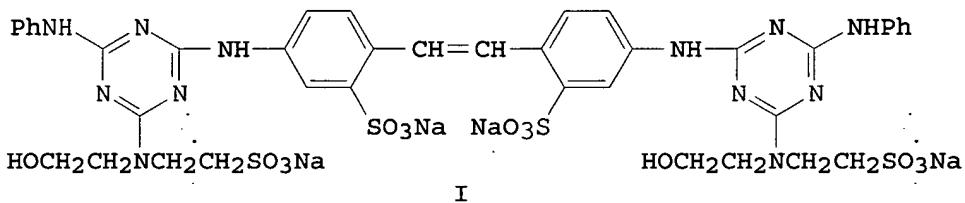
CODEN: CZXXA9

DOCUMENT TYPE: Patent

LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CS 179165	B	19790615	CS 1975-4371	197506 20
PRIORITY APPLN. INFO.:		CS 1975-4371		197506 20

GI



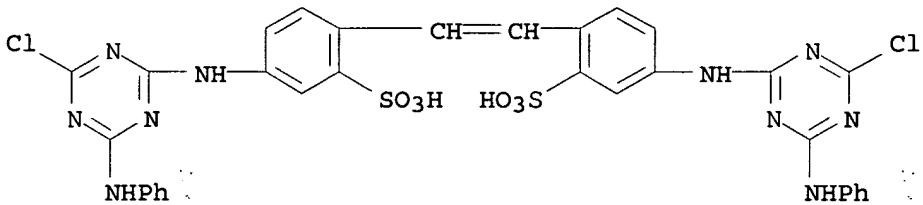
AB A mixt. of 51 parts Na 4,4'-bis(6"-chloro-4"-anilinotriazinyl-2"-amino)stilbene-2,2'-disulfonate [37138-23-1], 30 parts 89% N-(hydroxyethyl)taurine [29706-49-8], 30 parts triethanolamine, and 250 vols. H₂O was refluxed 4 h, treated dropwise with 60 vols. 2.5N Na₂CO₃, refluxed 2 h, evapd. to 300 vols. mixed with kieselguhr and Na₂S₂O₄, and filtered to give 330 parts title compd. (I) [73348-26-2] in liq. form. I is a fluorescent whitener for cellulose and polyamide materials.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (hydroxyethyl)taurine)

RN 37138-23-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC C07D403-10

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

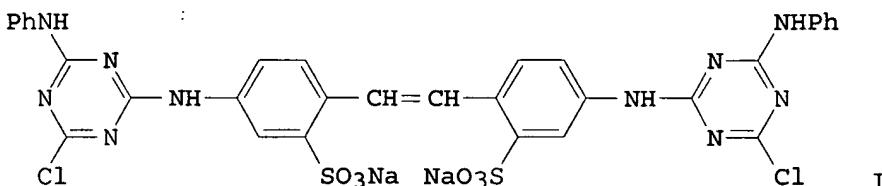
ST stilbene fluorescent whitener liq;
 triazinylaminostilbene fluorescent whitener;
 taurine stilbene fluorescent whitener;
 hydroxyethyltaurine fluorescent whitener
 IT Fluorescent brighteners
 (bis(triazinylamino)stilbene deriv., manuf. of liq.-form)
 IT 73348-26-2
 RL: USES (Uses)
 (fluorescent brightener, manuf. of liq.-form)
 IT 37138-23-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (hydroxyethyl)taurine)

L40 ANSWER 16 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:24258 HCPLUS
 DOCUMENT NUMBER: 92:24258
 TITLE: Stable crystalline sodium 4,4'-bis(6"-chloro-4"-anilinotriazinyl-2"-amino)stilbene-2,2'-disulfonate
 INVENTOR(S): Pirkl, Jaromir; Fisar, Ctibor
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 2 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CS 178766	B	19790515	CS 1976-1410	197603 04
PRIORITY APPLN. INFO.:			CS 1976-1410	197603 04

GI



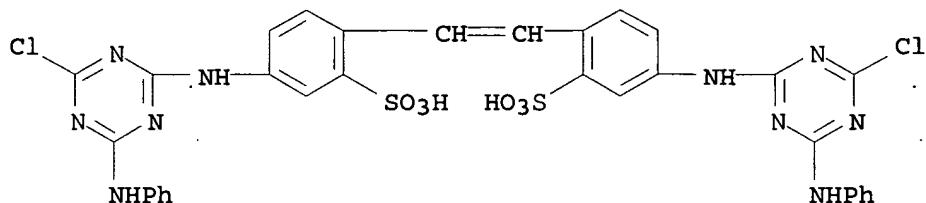
AB Equiv. amts. of 2-anilino-4,6-dichloro-s-triazine [2272-40-4] and 4,4'-diamino-2,2'-stilbenedisulfonic acid [81-11-8] were mixed in an aq. suspension contg. NaHCO3 and surfactant (Slovasol O), and the mixt. was kept at 90° by feeding steam to give the title compd. (I) [37138-23-1].

IT 37138-23-1P
 RL: PREP (Preparation)

(manuf. of stable cryst.)

RN 37138-23-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC D06L003-12

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST stilbene fluorescent brightener stable; triazinylaminostilbene cryst stable; chlorotriazinyl stilbene cryst stable

IT Fluorescent brighteners

(bis[(anilinochlorotriazinyl)amino]stilbenedisulfonic acid disodium salt, manuf. of stable cryst.)

IT 37138-23-1P

RL: PREP (Preparation)

(manuf. of stable cryst.)

L40 ANSWER 17 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1977:469724 HCPLUS

DOCUMENT NUMBER: 87:69724

TITLE: Effect of certain components of synthetic detergents on the action of fluorescent whiteners of various types

AUTHOR(S): Medvegyev Kiss, Erzsebet; Medvegyev, Vlagyimir; Kardos Tasi, Mrs. M.

CORPORATE SOURCE: Tiszamenti Vegyimuvek, Szolnok, Hung.

SOURCE: Kolorisztikai Ertesito (1977), 19(1), 2-13

CODEN: KOERA9; ISSN: 0023-2939

DOCUMENT TYPE: Journal

LANGUAGE: Hungarian

AB The effects of surfactants, inorg. phosphates, and inorg. salts on the whitening efficiency of bis[(anilino-s-triazinyl)amino]stilbenedisulfonate- and 7-aminocoumarin-type fluorescent whiteners on cotton or wool were exampd. When a stilbene whitener was used a synergism existed between it and the detergent components. The coumarins were more sensitive to the detergent compn. and the synergism not as pronounced as for the stilbene whiteners. Thus the detergent components and concn. have to be carefully selected when aminocoumarins are used.

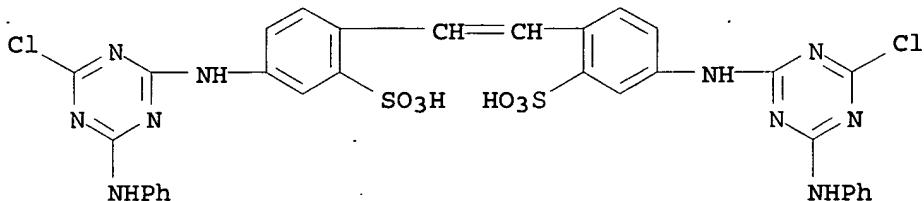
IT 37138-23-1

RL: USES (Uses)

(fluorescent brightening efficiency of, in presence of detergent components)

RN 37138-23-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 46

ST coumarin fluorescent whitener detergent;
stilbene fluorescent whitener detergent;
triazinyl stilbene whitener detergent; aminocoumarin
whitener detergent; detergent effect fluorescent
whitener

IT Fluorescent brighteners
(aminocoumarins and bis[(anilinotriazinyl)amino]stilbenedisulfonates, efficiency of, in presence of detergent components)

IT Soaps
RL: PROC (Process)
(fluorescent brightener efficiency in
presence of)

IT Detergents
(fluorescent brightener efficiency in
presence of components of)

IT 25155-30-0 25322-68-3D, fatty alkyl ether 497-19-8, uses and
miscellaneous 7757-82-6, uses and miscellaneous 7758-29-4
RL: PROC (Process)
(fluorescent brightener efficiency in
presence of)

IT 19063-57-1D, derivs. 37138-23-1
RL: USES (Uses)
(fluorescent brightening efficiency of, in
presence of detergent components)

L40 ANSWER 18 OF 26 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1976:594100 HCPLUS

DOCUMENT NUMBER: 85:194100

TITLE: White form of disodium
4,4'-bis(6''-morpholino-4''-anilinotriazinyl-2''-
amino)stilbene-2,2'-disulfonate

INVENTOR(S): Pirkl, Jaromir

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 3 pp.

CODEN: CZXXA9

DOCUMENT TYPE: Patent

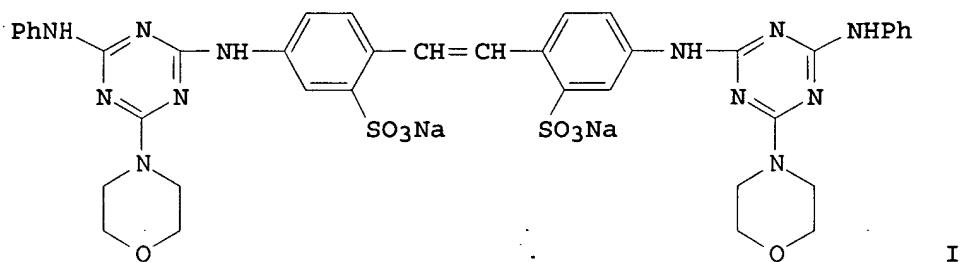
LANGUAGE: Czech

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CS 162583	B	19750715	CS 1974-1920	197403 18
PRIORITY APPLN. INFO.:			CS 1974-1920	A 197403 18

GI



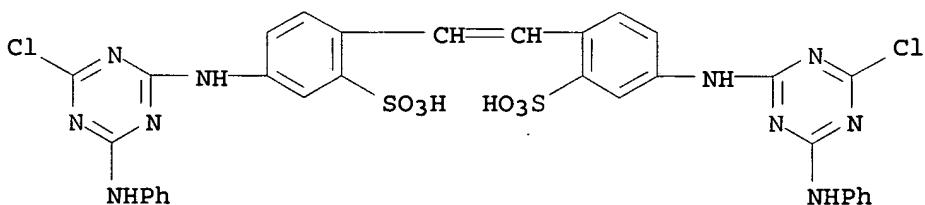
AB The title compd. (I) [16090-02-1] was prep'd. by heating 2-anilino-4,6-dichloro-s-triazine [2272-40-4] with di-Na 4,4'-diamino-2,2'-stilbenedisulfonate [7336-20-1] in EtOH contg. NaHCO₃ at 70-5°, treating the mixt. with morpholine [110-91-8] and aq. NaHCO₃, and refluxing with dil. NaCl soln.

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC C07C039-18

CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST stilbene fluorescent brightener;

triazinylaminostilbene fluorescent brightener;

anilinomorpholinotriazine fluorescent brightener

; morpholinotriazine fluorescent brightener

IT Fluorescent brighteners

(bis[(anilinomorpholinotriazinyl)amino]stilbenedisulfonic acid

disodium salt, white form, manuf. of)

IT 37138-23-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with morpholine)

L40 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1976:517530 HCAPLUS

DOCUMENT NUMBER: 85:117530

TITLE: Acute oral, dermal, and inhalation studies

AUTHOR(S): Thomann, P.; Krueger, L.

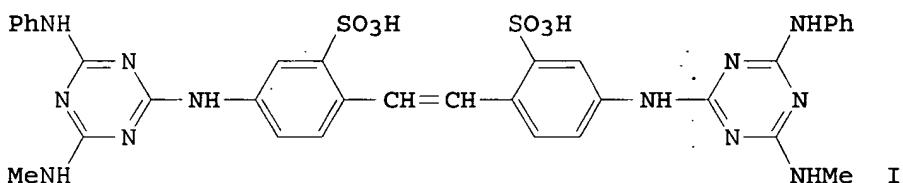
CORPORATE SOURCE: Ciba-Geigy A.-G., Basel, Switz.

SOURCE: Environmental Quality and Safety, Supplement
(1975), 4(Fluoresc. Whitening Agents), 193-8
CODEN: EQSSDX; ISSN: 0340-4714

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The acute oral, dermal, and inhalation toxicity of some or all of a group of 36 fluorescent whitening agents was tested. Numerous agents tested as pure compds. or in com. formulations showed a low order of oral toxicity in various species; most of the compds. can be classified as nontoxic or relatively harmless. Topical application of various whiteners did not give rise to any systemic toxicity, only a few cases of skin irritation, and some cases of eye irritation. 4,4'-Bis[(4-anilino-6-methylamino-1,3,5-triazin-2-yl)amino]stilbene-2,2'-disulfonic acid (I) [35632-99-6] and di-K 4,4'-bis(4-phenyl-1,2,3-triazol-2-yl)stilbene-2,2'-disulfonate [52237-03-3] were not toxic upon inhalation.

IT 4028-32-4

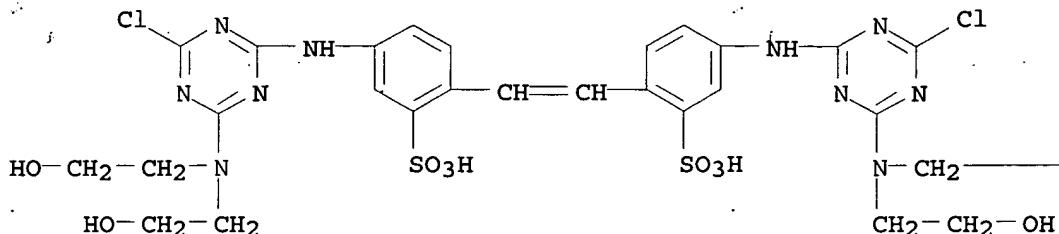
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(toxicity of)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂— OH

CC 4-3 (Toxicology)
 Section cross-reference(s): 40
 ST fluorescent whitener toxicity
 IT Toxicity
 (of fluorescent brighteners)
 IT Fluorescent brighteners
 (toxicity of)
 IT 91-44-1 2583-80-4 2866-43-5 3066-05-5 3426-43-5
 4028-32-4 4193-55-9 4470-72-8 6025-18-9 6416-68-8
 6909-55-3 7128-64-5 12224-02-1 13863-31-5 14295-72-8
 15208-16-9 16090-02-1 16143-18-3 16324-27-9 16470-24-9
 19683-09-1 24239-35-8 24565-13-7 27344-41-8 28950-61-0
 30468-49-6 34391-94-1 34771-66-9 35632-99-6 40691-09-6
 41098-56-0 42380-62-1 52237-03-3 52301-70-9 60397-73-1
 60397-74-2
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
 (toxicity of)

L40 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1974:146982 HCAPLUS
 DOCUMENT NUMBER: 80:146982
 TITLE: Bis(triazinylamino)-2,2'-stilbenedisulfonic acids as fluorescent whiteners for organic materials
 INVENTOR(S): Fringeli, Werner
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
 SOURCE: Ger. Offen., 44 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2335570	A1	19740131	DE 1973-2335570	
				197307
				12
PRIORITY APPLN. INFO.:			CH 1972-10968	A
				197207
				21

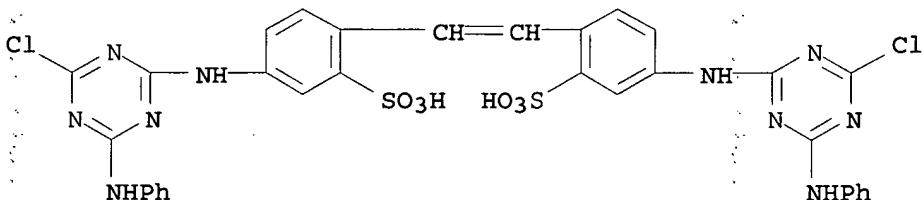
AB **Fluorescent whiteners** (I, R = Ph, p-NaO₃SC₆H₄, HOCH₂CH₂, NCCH₂CH₂) were prep'd. and were used to whiten polyamide, cellulose, and wool fibers, paper, and in detergent compns. Thus, Na 4,4'-bis[(2-anilino-4-chloro-1,3,5-triazinyl)amino]2,2'-stilbenedisulfonate was suspended in HOCH₂CH₂OMe in the presence of NaOH and refluxed 1 hr to give fluorescent whitener I(R = Ph) [51568-66-2]. The other I were similarly prep'd.

IT 37138-23-1 52576-51-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methoxyethanol in presence of sodium hydroxide)

RN 37138-23-1 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

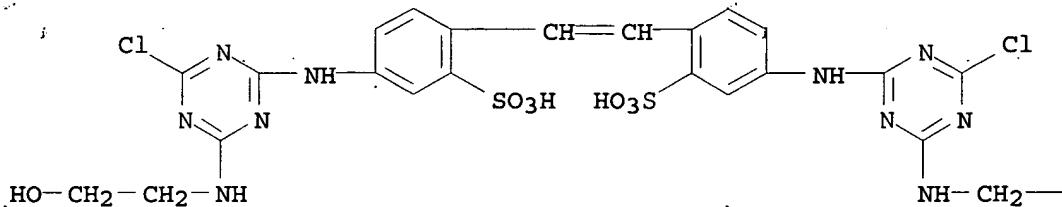


●2 Na

RN 52576-51-9 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂ — OH

IC C07D; C08K
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST stilbene fluorescent whitener;
 triazinylaminostilbene fluorescent whitener
 IT Fluorescent brighteners
 (bis[[amino(methoxyethoxy)triazinyl]amino]stilbenedisulfonic acid
 derivs., for cotton, wool and polyamide fibers, detergents and
 paper)
 IT Detergents
 Paper
 Polyamide fibers
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis[[amino(methoxyethoxy)triazinyl]amino]stilbenedisulfonic acid
 derivs. as)
 IT 37138-23-1 52576-49-5 52576-51-9 52576-52-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with methoxyethanol in presence of sodium
 hydroxide)

L40 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1974:9071 HCAPLUS
 DOCUMENT NUMBER: 80:9071
 TITLE: Stabilization of color photographs
 INVENTOR(S): Kanada, Eiji; Ueda, Bunzo
 PATENT ASSIGNEE(S): Mitsubishi Paper Mills, Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 48058834	A2	19730817	JP 1971-93356	197111 20
JP 54018569	B4	19790709	JP 1971-93356	A 197111 20
PRIORITY APPLN. INFO.:				

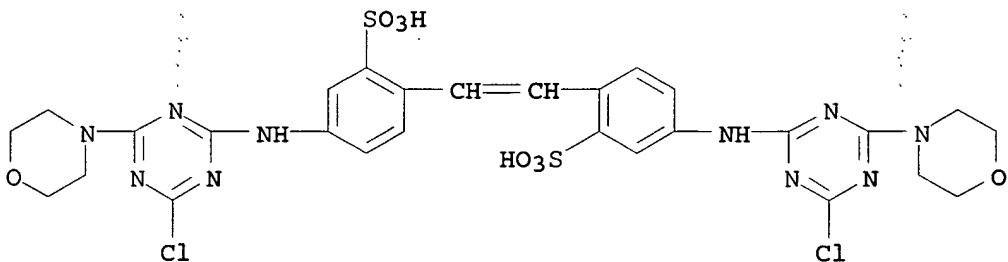
AB Color prints are stabilized with a soln. contg. (per l.) 0.1-20 g of ≥ 1 of H₂SO₃ and (or) water-sol. inorg. sulfites with a pH of 3-6. Thus, a multilayer Ag halide color printing paper contg. oil-sol. photog. couplers was exposed, developed with p-phenylenediamine developers, fixed, bleached, and hardened with HCHO. This print was then treated for 1 min in a stabilizing bath contg. NaHSO₃ 20, Whitex RP 0.5, K alum 10 g, 37% HCHO 20 ml and H₂O to give 1 l., the pH being adjusted to 4 with NaOAc. The dried print was stored at 50° and 80% relative humidity for 1 month. The color fading rates (%) were 0(cyan), 10(magenta) and 8(yellow) as compared to 30, 30, and 20, resp., for a print stabilized with a sulfitefree bath.

IT 28950-66-5

RL: USES (Uses)
(photog. stabilizer compns. contg.)

RN 28950-66-5 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

INCL 103H0; 103F0

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 50-00-0, uses and miscellaneous 10043-67-1 28950-66-5

RL: USES (Uses)
(photog. stabilizer compns. contg.)

IT 7631-90-5

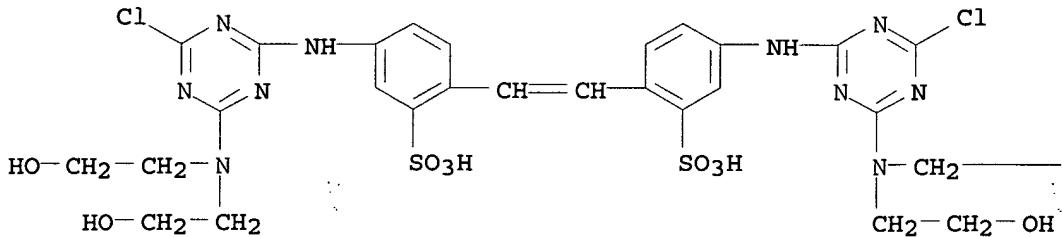
RL: USES (Uses)
(photog. stabilizer compns. contg., for color photographs)

L40 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1970:436497 HCAPLUS
 DOCUMENT NUMBER: 73:36497
 TITLE: Softening compositions containing fluorescent whitening agents
 INVENTOR(S): Vincent, Patrick; Lecomte, Jacques
 PATENT ASSIGNEE(S): Melle-Bezons
 SOURCE: Fr., 9 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 1576479		19690801	FR	196804 29

- GI For diagram(s), see printed CA Issue.
 AB The title compns. contg. a quaternary ammonium compd. a triazinylaminostilbene whitener (I), and a polyvalent acid were prep'd. A mixt. of 73 parts of a 75% iso-PrOH soln. of distearyltrimethylammonium chloride and 5.5 parts ethoxylated (15:1) dodecylamine was heated 10 min to 60-5°. To the soln., 700 parts 60-5° hot H₂O was added and, at 30-5°, followed by ethoxylated (25:1) oleocetyl alc. 5, I [R₁ = morpholino, (Q), R₂ = p-HO₃SC₆H₄NH] 4, and gluconic acid 3 parts. Other acids used were H₃PO₄, citric acid, N(CH₂CO₂H)₂, EDTA salts, p-MeC₆H₄SO₃H, and sulfosuccinic acid. Other I used were (R₁ and R₂ given): C₁, N(CH₂CH₂OH)₂; m-HSO₃C₆H₄NH, m-HSO₃HC₆H₄NH; MeO, N(CH₂CH₂OH)₂; Q, Q; C₁, Q; MeOCH₂CH₂O, n(CH₂CH₂OH)₂.
 IT 4028-32-4 28950-66-5
 RL: USES (Uses)
 (fluorescent brightener, softening agents
 contg., for textiles)
 RN 4028-32-4 HCAPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

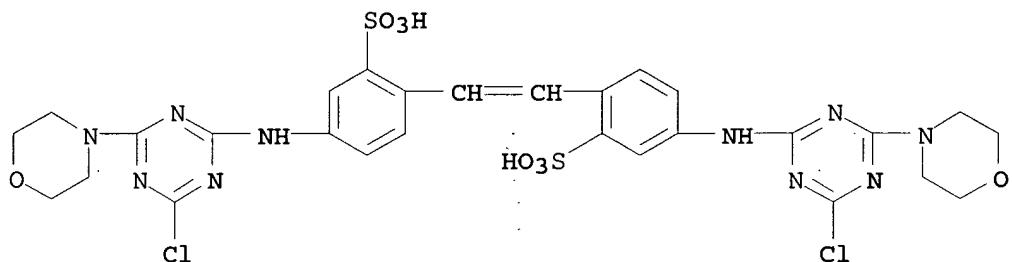


●2 Na

PAGE 1-B

— CH₂— OH

RN 28950-66-5 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-(4-morpholinyl)-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IC C09B; C07D
 CC 39 (Textiles)
 ST softeners fabrics; fluorescent whitening
 compns
 IT Coconut oil
 RL: USES (Uses)
 (amines, reaction products with ethylene oxide, in softening
 agents contg. fluorescent whiteners, for
 textiles)
 IT Softening agents
 (for textiles, fluorescent brightening agents
 in)
 IT Fluorescent brightening agents
 (softening agents contg., for textiles)
 IT Oleic acid
 RL: USES (Uses)
 (mixture with cetyl alcohol, reaction products with
 ethylene oxide, in softening agents contg. fluorescent
 whitening agents, for textiles)
 IT Ethylene oxide
 RL: USES (Uses)
 (reaction products with fatty amines, in softening agents contg.
 fluorescent whiteners, for textiles)
 IT 4028-32-4 4470-72-8 28950-61-0 28950-63-2 28950-65-4
 28950-66-5 28950-67-6
 RL: USES (Uses)
 (fluorescent brightener, softening agents
 contg., for textiles)

IT 60-00-4, uses and miscellaneous 107-64-2 139-13-9 526-95-4
 7664-38-2, uses and miscellaneous
 RL: USES (Uses)
 (in softening agents contg. **fluorescent whiteners**, for textiles)

IT 36653-82-4
 RL: USES (Uses)
 (mixture with oleic acid, reaction products with ethylene oxide, in softening agents contg. **fluorescent whitening agents**, for textiles)

IT 124-22-1
 RL: USES (Uses)
 (reaction products with ethylene oxides, in softening agents contg. **fluorescent whiteners**, for textiles)

L40 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1970:416308 HCAPLUS
 DOCUMENT NUMBER: 73:16308
 TITLE: Bis(triazinylamino)stilbene **fluorescent whitening agents**
 INVENTOR(S): Kleinheidt, Ernst A.; Gold, Heinrich
 PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
 SOURCE: Brit., 3 pp.
 CODEN: BRXXAA
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 1183854		19700311	GB 1967-32591	196707 14

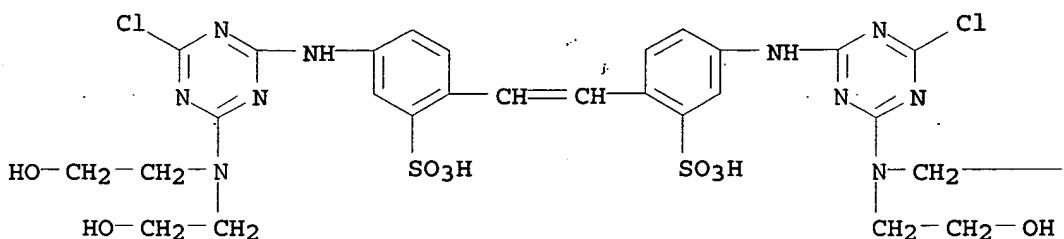
GI For diagram(s), see printed CA Issue.
 AB The title compds. (I) are prep'd. from II and di-Na 4,4'-diaminostilbene - 2,2'-disulfonate (III). Thus, 45 g (HOCH₂CH₂)₂NH in 155 ml H₂O was added to a suspension of 37 g II (R = Cl) in 200 ml H₂O contg. 1 g n-C₁₂H₂₅O(CH₂CH₂O)₅H (IV) wetting agent, and the mixt. was warmed at 40° for 30 min (pH dropped to 7) to give 45 g II [R = (HOCH₂CH₂)₂N] (V), m. 139° (MeCOEt). A mixt. of 25.3 g V, 18.6 g III, and 7.6 g NaHCO₃ in 150 ml H₂O contg. 0.5 g IV was stirred at 75° for 90 min and filtered hot to give 36.5 g cryst. I [R = (HOCH₂CH₂)₂N, R' = Cl]. Similarly, other I (R' = Cl) were prep'd. (R, % yield, II m.p., and % yield of II given): HOCH₂CH₂NMe, 95, 88°, 95; 1-pyrrolidinyl, 99, 111-12° (petroleum ether), 87, I (R = H₂N, R' = HOCH₂CH₂NH) was prep'd. from II (R = NH₂) by reaction with III and direct treatment of the mixt. with HOCH₂CH₂NH₂ for 45 min at 100°.

IT 4028-32-4P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prep'n. of)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂— OH

IC C07D
 CC 40 (Dyes, Fluorescent Whiteners, and Photosensitizers)
 ST triazinylstilbenes; stilbenes triazinyl; optical brighteners
 ; brighteners optical
 IT Fluorescent brightening agents
 (bis[(aminochlorotriazinyl)amino]stilbenedisulfonic acid derivs.)
 IT 4028-32-4P 13436-79-8P 25295-51-6P 25790-73-2P
 25790-74-3P 27354-98-9P 27355-00-6P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L40 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1970:68216 HCAPLUS

DOCUMENT NUMBER: 72:68216

TITLE: Bis(triazinylamino)stilbene fluorescent
whitening agents

PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.

SOURCE: Fr., 3 pp.
CODEN: FRXXAK

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1533141	-----	19680712	FR 1967-116754	196708 03
DE 1670832	-----		DE	
PRIORITY APPLN. INFO.:	-----		DE	
				196703

GI For diagram(s), see printed CA Issue.

AB The title compds. (I) were prep'd. by reacting 2-amino-4,6-dichloro-s-triazines with [4,2-H2N(NaO3S)C6H3CH:]2 (II) at 70-80° in an aq. alk. soln. contg. wetting agents. When the triazine compds. are prep'd. in aq. media in the absence of org. solvents, II may be added directly in a through process. I prep'd. in wholly aq. media are more efficient than when prep'd. in mixts. of H2O and org. solvents. For example, a mixt. of II 18.6, 2-diethanolamino-4,6-dichloro - s-triazine (III) 25.3, NaHCO3 7.6, C12H25O(CH2CH2O)5H (IV) 0.5, and H2O 150 parts was heated at 70° for 90 min to give 36.5 parts I (R1 = R2 = CH2CH2OH). Similarly, other I were prep'd. (R1 and R2 given): Me, CH2CH2OH; (NR1R2 =) 1-pyrrolidinyl; H, H (after-treated with H2NCH2CH2O h to replace Cl). III, m. 139° (MeCOEt), was prep'd. by treating cyanuric chloride with HN(CH2CH2OH)2 in H2O using IV at 35-40° and pH 7. Similarly were prep'd. the 2-(N-methylethanolamino) analog, m. 88°, and the 2-(1-pyrrolidinyl) analog, m. 111-12° (petroleum ether).

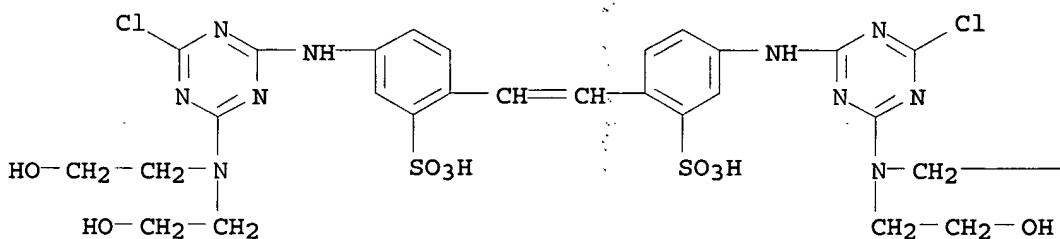
IT 4028-32-4P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH2— OH

IC C09B

CC 40 (Dyes, Fluorescent Whiteners Agents, and Photosensitizers)

ST triazinyl amino stilbenes; stilbenes triazinyl amino; amino stilbenes triazinyl; fluorescent whiteners

triazines; whiteners fluorescent triazines
 IT Fluorescent brightening agents
 (bis(triazinylamino)stilbenedisulfonic acid derivs.)
 IT 4028-32-4P 13436-79-8P 25295-51-6P 25790-73-2P
 25790-74-3P 25790-75-4P 25790-76-5P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L40 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1970:62797 HCAPLUS
 DOCUMENT NUMBER: 72:62797
 TITLE: States of amino acid residues in proteins. XX.
 Fluorescence of stilbene dyes adsorbed on
 hydrophobic regions of protein molecules
 AUTHOR(S): Takenaka, Osamu; Shibata, Kazuo
 CORPORATE SOURCE: Tokugawa Inst. Biol. Res., Tokyo, Japan
 SOURCE: Journal of Biochemistry (Tokyo, Japan) (1969),
 66(6), 805-14
 CODEN: JOBIAO; ISSN: 0021-924X

DOCUMENT TYPE: Journal
 LANGUAGE: English

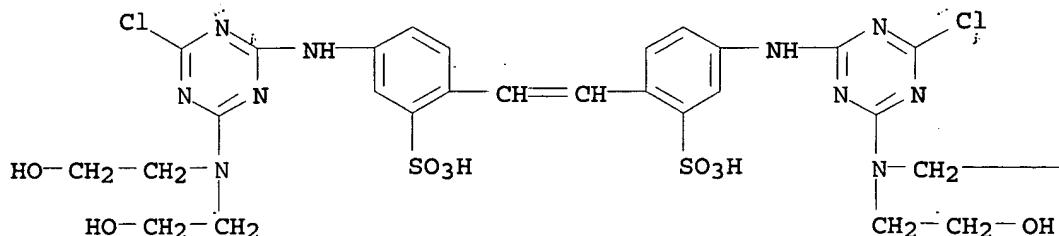
AB Interactions of a fluorescent dye, Na 4,4'-(bis[2-chloro -
 4-diethanolamino-1,3,5-triaethyl - (6)])-diaminostilbene -
 2,2'-disulfonate (TAS) with proteins and poly-amino acids were
 studied by measuring absorption and fluorescence spectra of TAS and
 the rate of photoisomerization in the presence and absence of
 proteins, and adsorption of TAS on hydrophobic regions of proteins
 was deduced. Both absorption and fluorescence spectra of TAS were
 changed by the presence of protein. The quantum yield of the
 fluorescence of TAS was increased by the presence of protein. The
 rate of photoisomerization of TAS from the trans to the cis form was
 decreased by protein. The fluorescence excitation spectra of
 mixts. of TAS and proteins showed a band near 280 m μ .
 indicating energy transfer from aromatic amino acid residues to TAS
 mols. Na 4,4'-diaminostilbene - 2,2'-disulfonate, a
 fluorescent stilbene, similar to TAS but without the 2
 triazine rings of TAS, did not undergo such fluorescence and
 absorption changes on the addn. of proteins. The hydrophobic
 regions in insulin, lysozyme [EC 3.2.1.17], RNase [EC 2.7.7.16],
 chymotrypsinogen, and α -chymotrypsin [EC 3.4.4.5] mols. were
 studied by means of the fluorescence enhancement of TAS and, in the
 case of insulin, the presence of two hydrophobic regions, one
 between A and B chains and the other in the heptapeptide (B23
 glycine to B29 lysine) of the B chain was deduced; the hydrophobic
 interaction of TAS with the native insulin mol. was remarkably
 decreased by sepn. of the insulin mol. into the A and B chains,
 whereas tryptic digestion did not much affect the interaction.
 Interactions of TAS with other proteins with larger mol. sizes were
 increased by alkali-denaturation or by cleavage of SS bonds,
 evidently by exposure of the hydrophobic regions buried in the
 interior of protein mols.

IT 4028-32-4
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (adsorption of, by protein hydrophobic regions, spectrum in
 relation to)

RN 4028-32-4 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[4-[bis(2-
 hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium
 salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂ — OH

CC 2 (General Biochemistry)

IT 4028-32-4

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, by protein hydrophobic regions, spectrum in
relation to)

L40 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1967:96163 HCAPLUS

DOCUMENT NUMBER: 66:96163

TITLE: Polymer bleaching

PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.

SOURCE: Neth. Appl., 12 pp.

CODEN: NAXXAN

DOCUMENT TYPE: Patent

LANGUAGE: Dutch

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
NL 6606821		19661121	NL 1966-6821	196605 18
FR 1480093	FR			
GB 1125934	GB			
PRIORITY APPLN. INFO.:	GB			196505 18
	GB			196605

GI For diagram(s), see printed CA Issue.

AB Bleaching of polymeric materials with triazinylaminostilbene derivs, and the prepn. of liquid compns. contg. these derivs. is described. Thus, cyanuric chloride 66 in Me₂CO 287.5 was added with stirring to H₂O 125 and ice 336 contg. KH₂PO₄ 6, a 10% soln. (calcd. as free acid) of [2,4-NaO₃S(H₂N)C₆H₃CH:]₂ 660 contg. 50% KOH 40.5 was added immediately over 30 min., while the temp. was kept below 5° and the pH between 5 and 7, the mixt. stirred 20 min., diisopropylamine 47.3 parts added, the temp. raised to 40° over 30 min., the mixt. stirred 2 hrs. at 40° while the pH was kept between 8.0 and 8.5 and filtered, the vol. at 20° brought to 2500 parts, and 250 parts NaCl added to give I. Stirring 1 hr., filtration, and drying gave a light-yellow product. A non-dyed nylon fiber 25 was treated 45 min. at 95° in a bath 1750 contg. I 0.125 and glacial acetic acid, 0.75 part, rinsed and dried. The fiber was clearer after treatment. Addn. of 18 parts I to a mixt. of 3 parts diethylene glycol per 1 part of H₂O so that the final vol. is 100 parts, addn. of 1 part decolorizing C and sifting after stirring 15 min. gave a pure clear gold-yellow liquid.

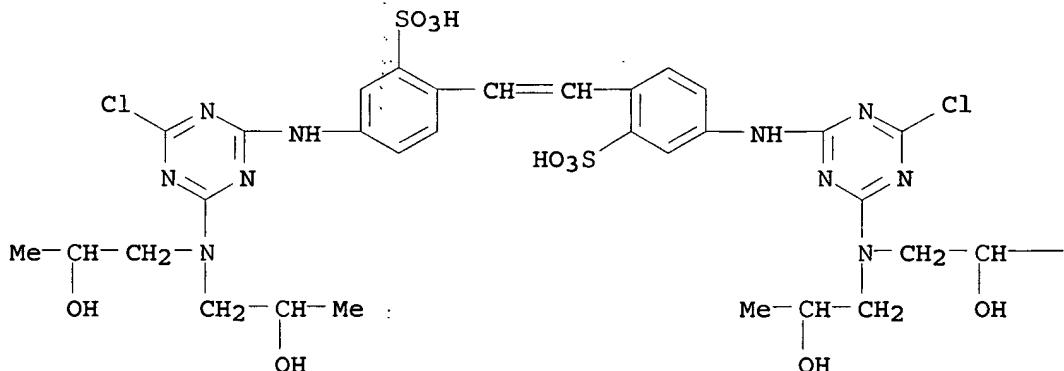
IT 13281-93-1P

RL: PREP (Preparation)
(manuf. of, and nylon fluorescent bleaching with)

RN 13281-93-1 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— Me

IC C07D
 CC 39 (Textiles)
 IT Nylon, uses and miscellaneous
 Polymers, uses and miscellaneous
 RL: USES (Uses)
 (bleaching (fluorescent) of, with
 triazinylaminostilbene derivs.)
 IT Bleaching
 (fluorescent or optical, of nylon and other polymers
 with triazinylaminostilbene derivs.)
 IT Fluorescent brightening agents
 (triazinylaminostilbene derivs. as)
 IT 13281-93-1P
 RL: PREP (Preparation)
 (manuf. of, and nylon fluorescent bleaching with)
 IT 13281-94-2P 13281-95-3P
 RL: PREP (Preparation)
 (manuf. of, and polymer fluorescent bleaching with)

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L47 ANSWER 1 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:991742 HCPLUS
 DOCUMENT NUMBER: 140:43659
 TITLE: Whitening pigments for
 fluorescent whitening paper
 and textile and in detergent
 compositions
 INVENTOR(S): Cuesta, Fabienne; Naef, Roland; Deisenroth, Ted;
 Rohringer, Peter; Grienenger, Marc Roger;
 Schroeder, Serge
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003104560	A1	20031218	WO 2003-EP5803	200306 03

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
 ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG

CA 2486589 AA 20031218 CA 2003-2486589
 200306
 03

AU 2003238207 A1 20031222 AU 2003-238207
 200306
 03

EP 1511901 A1 20050309 EP 2003-735531
 200306
 03

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
 SK

BR 2003011712 A 20050315 BR 2003-11712
 200306
 03

CN 1659339 A 20050824 CN 2003-813456
 200306
 03

JP 2005529217 T2 20050929 JP 2004-511612
 200306
 03

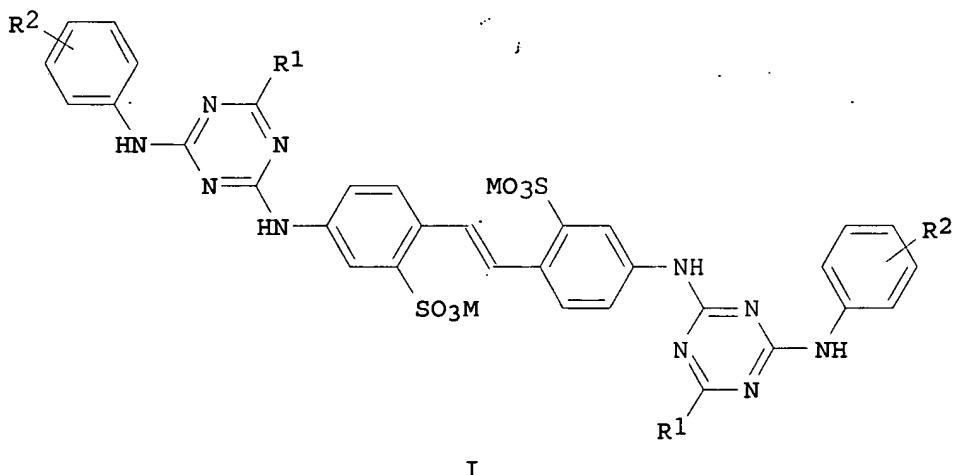
ZA 2004008888 A 20051130 ZA 2004-8888
 200411
 03

US 2005203221 A1 20050915 US 2004-515898
 200411
 24

PRIORITY APPLN. INFO.: EP 2002-405474 A
 200206
 11

WO 2003-EP5803 W
 200306
 03

OTHER SOURCE(S) : MARPAT 140:43659
 GI



AB The **whitening** pigment comprises a reaction product of (a) a melamine-formaldehyde and/or a melamine-urea polycondensation product and (b) a water-sol. **fluorescent whitening** agent I ($R_1 = OH, -OC_1-4$ alkyl, $-O-aryl$, $-NH_2$, $-NHC_1-4$ alkyl, $-N(C_1-4$ alkyl) $_2$, $-NHC_2-4$ hydroxyalkyl, $-N(C_2-4$ hydroxyalkyl) $_2$, $-N(C_1-4$ alkyl)(C_2-4 hydroxyalkyl), $-NHC_1-4$ alkoxy- C_1-4 alkyl, $-N(C_1-4$ alkoxy- C_1-4 alkyl) $_2$, morpholino, piperidino, pyrrolidino, amino acid; $R_2 = -CONH_2$, $-CONHC_1-4$ alkyl, $-COOM$, $-SO_2NH_2$, $-SO_2NHC_1-4$ alkyl; $M = H, Na, K, Ca, Mg$, ammonium, mono-, di-, tri- or tetra-substituted C_1-4 alkylammonium, C_2-4 hydroxyalkylammonium). Thus, 0.2 parts I ($R_1 = -N(CH_3)CH_2COONa$; $R_2 = -CONH_2$; $M = Na$) was mixed with a pigment contg. 60/40 calcium carbonate 60 and clay, 0.2 parts polyvinyl alc. and 9 parts SBR binder, coated on paper and dried, showing CIE **whiteness** 107.2 and fluorescence 11.2.

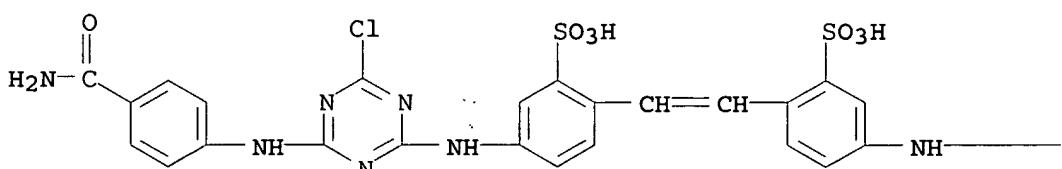
IT 634606-60-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn of **whitening** agent)

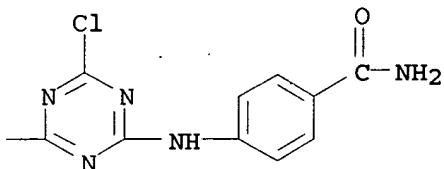
RN 634606-60-3 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[4-(aminocarbonyl)phenyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



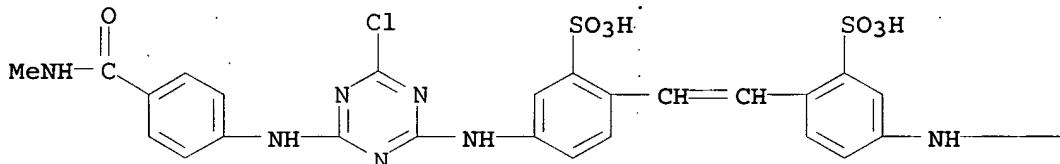
IT 203250-73-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn of whitening agent)

RN 203250-73-1 HCPLUS

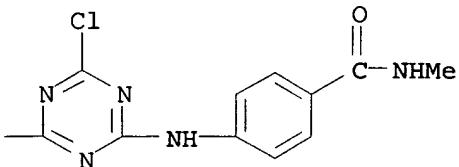
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(4-[(methylamino)carbonyl]phenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IC ICM D21H021-30

ICS D21H019-36; D21H017-51; C09B023-14; C09B067-24

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 40, 42, 46ST fluorescent whitening pigment paper coating
compon; triazine aminostilbenesulfonic acid whitening
pigment detergent; melamine formaldehyde whitening pigment
textile

IT Styrene-butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered
material use); USES (Uses)
(paper coating; whitening pigments for
fluorescent whitening paper and textile and in
detergent compns.)

IT Aminoplasts

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (reaction products with fluorescent whitening agents; whitening pigments for fluorescent whitening paper and textile and in detergent compns.)

IT Detergents
Fluorescent brighteners
Fluorescent pigments

Paper
 Textiles
 (whitening pigments for fluorescent whitening paper and textile and in detergent compns.)

IT 634606-60-3P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (prepn of whitening agent)

IT 81-11-8 107-97-1, Sarcosine 108-77-0, Cyanuric chloride 617-45-8, Aspartic acid 2835-68-9 203250-73-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; prepn of whitening agent)

IT 9003-55-8
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (styrene-butadiene rubber, paper coating; whitening pigments for fluorescent whitening paper and textile and in detergent compns.)

IT 9003-08-1DP, Lyofix CHN, reaction products with fluorescent whitening agents 25036-13-9P, Formaldehyde-melamine-urea copolymer 133102-27-9DP, reaction products with melamine-formaldehyde copolymer 634606-57-8DP, reaction products with melamine-formaldehyde copolymer 634606-58-9DP, reaction products with melamine-formaldehyde copolymer 634606-59-0DP, reaction products with melamine-formaldehyde copolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (whitening pigments for fluorescent whitening paper and textile and in detergent compns.)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:711060 HCAPLUS
 DOCUMENT NUMBER: 139:237611
 TITLE: Color photographic material and its processing solution containing fluorescent brightener
 INVENTOR(S): Okazaki, Kentaro; Yokokawa, Takuya; Nakai, Yasushi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 71 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003255482	A2	20030910	JP 2002-382502	200212 27
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PRIORITY APPLN. INFO.:			JP 2001-401449	A 200112 28
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OTHER SOURCE(S): GI		MARPAT 139:237611		

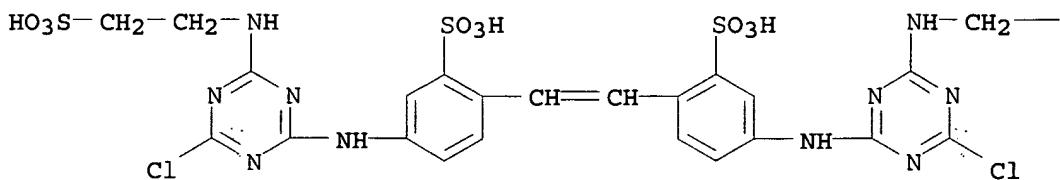
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The material comprises (a) ≥ 1 Ag halide emulsion layer contg. a yellow, a magenta, and a cyan coupler, resp., (b) a color mixt. preventing layer, and (c) a protective layer. Silver halide grains with an area having higher AgBr and/or AgI content than other area in ≥ 1 above emulsion layer contain ≥ 1 of Ag(Br, Cl), Ag(Cl, I), and Ag(Cl, Br, I) grains with AgCl ≥ 95 mol%. It is exposed according to area converted dot image data and then processed with a soln. contg. I [R11, R12 = H, alkyl; R13, R14 = H, alkyl, aryl; R15 = alkyl (A) with ≥ 1 asym. carbon atom, $-\text{CH}_2\text{O}(\text{CH}_2\text{CH}_2\text{O})_{n11}\text{H}$; n11 = 1-3; R16 = A, $-(\text{CH}_2\text{CH}_2\text{O})_{n12}\text{H}$; n12 = 2-4; M1 = H, alkali metal, alkali earth metal, ammonium, pyridinium] and/or II [R21-24 = H, alkyl, aryl; R25, R26 = A, $-(\text{CH}_2\text{CH}_2\text{O})_{n21}\text{H}$; n21 = 2-4; R27, R28 = A; M2 = M1]. The method shows no d. unevenness, reduced stain of white background, and improved sharpness on rapid processing.

IT 191927-79-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of triazine deriv. fluorescent brightener)

RN 191927-79-4 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-sulfoethyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI)
 (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B

— CH₂—SO₃H

IC ICM G03C001-035
 ICS G03C001-09; G03C005-08; G03C007-392; G03C007-00
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST silver chloride rich photog emulsion; photog paper color mixt preventing layer; triazine fluorescent brightener photog processing soln
 IT Color photographic paper
 (photog. paper with color mixt.-preventing layer and protective layer)
 IT Fluorescent brighteners
 Photographic processing
 (photog. processing using soln. contg. triazine compd. as fluorescent brightener)
 IT 903-19-5
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (color mixt.-preventing agent; photog. paper with color mixt.-preventing layer and protective layer)
 IT 333459-85-1P 594845-68-8P 594845-69-9P 594845-70-2P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photog. processing using soln. contg. triazine compd. as fluorescent brightener)
 IT 68971-49-3 119729-06-5
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (photog. processing using soln. contg. triazine compd. as fluorescent brightener)
 IT 26464-76-6P 191927-79-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of triazine deriv. fluorescent brightener)
 IT 81-11-8 107-35-7, Taurine 108-77-0, 2,4,6-Trichloro-1,3,5-Triazine 616-30-8 929-06-6, 2-Amino-2'-hydroxydiethyl ether 90191-92-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of triazine deriv. fluorescent brightener)

L47 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:594830 HCAPLUS
 DOCUMENT NUMBER: 137:142076
 TITLE: Preparation of 2-2'-[vinylenebis[(3-sulphonate-4,1-phenylene) imino]6-[bis(2-hydroxypropyl)amino]-1,3,5-triazine-4,2'-diyl]imino]bis(benzene-1,4-disulphonate) of hexasodium
 INVENTOR(S): Comas Carceller, Jose
 PATENT ASSIGNEE(S): Elaboracion De Colorantes, S.A., Spain
 SOURCE: PCT Int. Appl., 22 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent

LANGUAGE: English

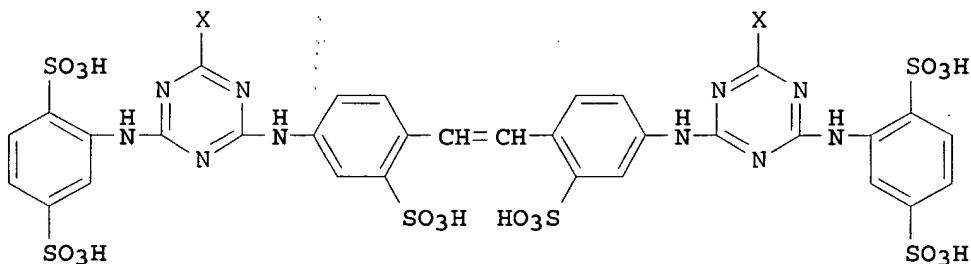
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060883	A1	20020808	WO 2001-IB1920	200110 15
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
ES 2189619	A1	20030701	ES 2001-202	200101 30
ES 2189619	B1	20041001	ES 2001-202	A 200101 30

PRIORITY APPLN. INFO.:

GI



AB Product of general formula (I) in which X = diisopropanolamine group, the method for making which comprises three successive phases of condensation, under certain pH conditions. Said product has an improved whitening effect on paper, as it does not present the satn. problems characteristic of other known products and has other possible uses in coating mixts. that contain an appreciable quantity of starch or CM-cellulose, and in the whitening of cellulosic fiber garments in the textile industry.

IT 445016-61-5P

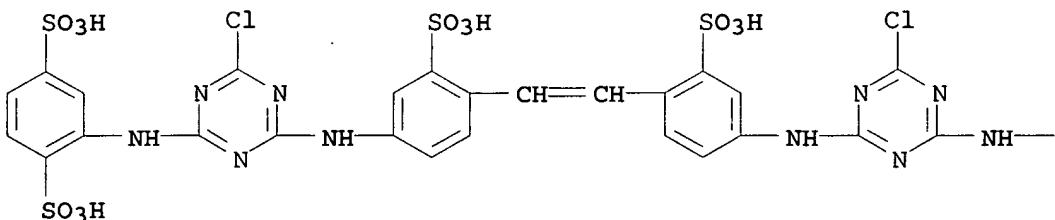
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of 2-2'-(vinylenebis[(3-sulfonate-4,1-phenylene)imino[6-[bis(2-hydroxypropyl)amino]-1,3,5-triazine-4,2-diyl]imino])bis(benzene-1,4-disulfonate) of hexasodium)

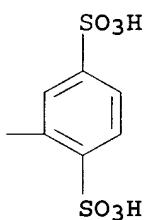
RN 445016-61-5 HCAPLUS

CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino])bis- (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07D251-68

ICS D06L003-12; D21H021-30; C08K005-42

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 40, 42

ST whitening bleaching agent paper fiber textile garment

IT 17752-51-1P 445016-61-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)

(prepn. of 2-2'-(vinylenebis[(3-sulfonate-4,1-phenylene)imino[6-[bis(2-hydroxypropyl)amino]-1,3,5-triazine-4,2-diyl]imino])bis(benzene-1,4-disulfonate) of hexasodium)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L47 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:539669 HCAPLUS

DOCUMENT NUMBER: 137:95166

TITLE: Preparation of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid compounds

INVENTOR(S): Metzger, Georges; Reinehr, Dieter; Sauter,
Hanspeter; Dbaly, Helena

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 14 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002055509	A1	20020718	WO 2002-EP70	200201 07

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1358166	A1	20031105	EP 2002-715396	200201 07

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002006398	A	20040210	BR 2002-6398	200201 07

JP 2004517139	T2	20040610	JP 2002-556179	200201 07

US 2004063706	A1	20040401	US 2003-250843	200307 07

PRIORITY APPLN. INFO.:		EP 2001-810028	A	200101 12

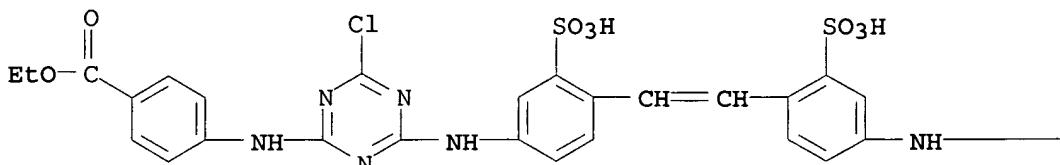
OTHER SOURCE(S): GI		WO 2002-EP70	W	200201 07

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB 4,4'-Bis(triazinylamino)-stilbene-2,2'-disulfonic acid compd. I (R1 = amino, alkylamino, (un)substituted hydroxyalkylamino, (un)substituted hydroxyalkylalkylamino, cycloalkylamino, arylamino, aralkylamino, morpholino, piperidino, pyrrolidino residue; M = H, Na, Li, K, Ca, Mg, (un)substituted ammonium) is prep'd. by reacting a compd. II (R2 = (un)substituted C1-10 alkyl; X = halogen) with

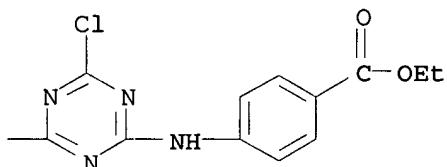
≥4 mol amine R1H or its mixt.
 IT 175391-29-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
 compds.)
 RN 175391-29-4 HCPLUS
 CN Benzoic acid, 4,4'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino])bis-, 1,1'-diethyl ester,
 disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IC ICM C07D251-68
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and
 Photographic Sensitizers)
 Section cross-reference(s): 28
 IT Fluorescent brighteners
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
 compds.)
 IT 74-89-5, Methylamine, reactions 141-43-5, Ethanolamine, reactions
 175391-29-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of 4,4'-bis(triazinylamino)-stilbene-2,2'-disulfonic acid
 compds.)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L47 ANSWER 5 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2000:553675 HCPLUS
 DOCUMENT NUMBER: 133:151986
 TITLE: Fluorescent brightener, its
 production and its use
 INVENTOR(S): Baker, Richard Leon
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: PCT Int. Appl., 22 pp.

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000046336	A1	20000810	WO 2000-EP732	200001 31

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6165973	A	20001226	US 2000-493341	200001 28

NZ 513712	A	20010928	NZ 2000-513712	200001 31

EP 1149147	A1	20011031	EP 2000-907489	200001 31

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000008011	A	20011120	BR 2000-8011	200001 31

JP 2002536501	T2	20021029	JP 2000-597398	200001 31

AU 768659	B2	20031218	AU 2000-29058	200001 31

PRIORITY APPLN. INFO.:			US 1999-118821P	P 199902 05

			WO 2000-EP732	W 200001 31

OTHER SOURCE(S): MARPAT 133:151986
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A fluorescent brightener is obtained which is a mixt. of I, II, and III (-SO₃R groups are in the meta and/or para position, and wherein R and M are H, Na, Li, K, Ca, Mg, ammonium, or ammonium that is mono-, di-, tri- or tetra-substituted by C₁-C₄alkyl, C₁-C₄-hydroxyalkyl or a mixt. thereof) and useful for textiles and paper. The mixt. is produced from cyanuric chloride and 4,4'-diamino-2,2'-stilbenedisulfonic acid followed by a mixt. of diethanolamine and diisopropanolamine and finally sulfanilic and/or metanilic acid.

IT 287728-12-5P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; prodn. of stilbenedisulfonic acid triazine deriv. fluorescent brightener mixts.)

RN 287728-12-5 HCPLUS

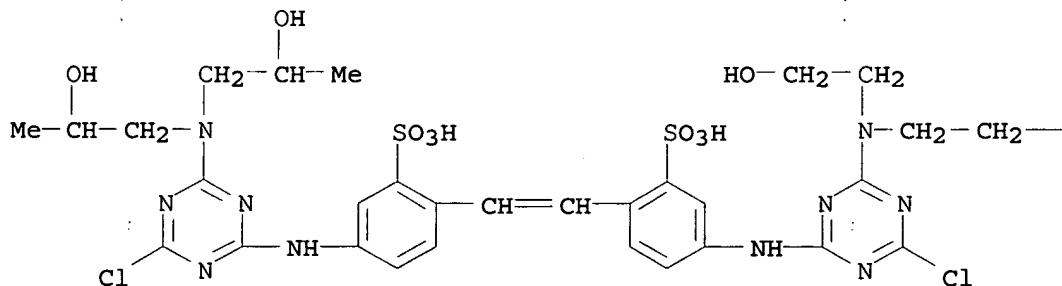
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, mixt. with 5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-[2-[4-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-2-sulfophenyl]ethenyl]benzenesulfonic acid and 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

CRN 287728-11-4

CMF C30 H36 Cl2 N10 O10 S2

PAGE 1-A



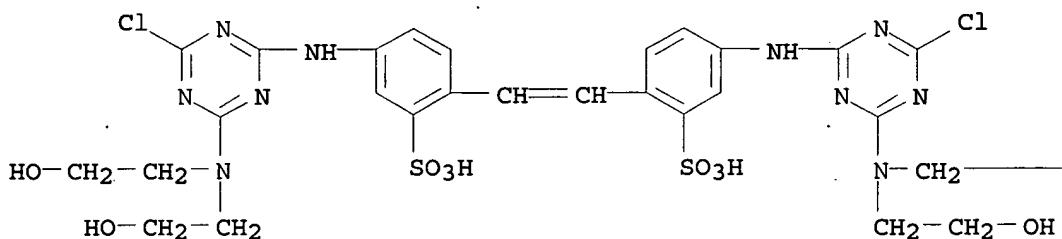
PAGE 1-B

— OH

CM 2

CRN 50570-59-7
 CMF C28 H32 Cl2 N10 O10 S2

PAGE 1-A



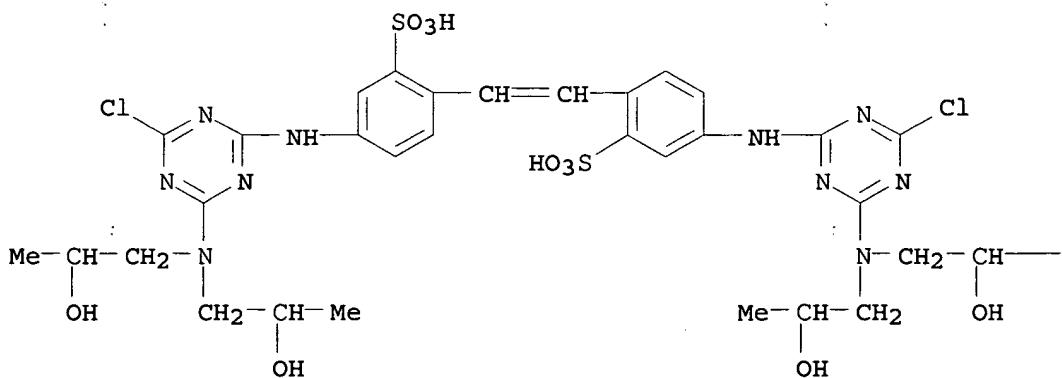
PAGE 1-B

—CH₂—OH

CM 3

CRN 23612-96-6
 CMF C32 H40 Cl2 N10 O10 S2

PAGE 1-A



PAGE 1-B

— Me

IC ICM C11D003-42
 ICS C07D251-68; D06L003-12; D21H021-30
 CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and
 Photographic Sensitizers)
 Section cross-reference(s): 40, 46
 ST fluorescent brightener prodn stilbenedisulfonic
 triazine deriv
 IT Bleaching agents
 (contg. stilbenedisulfonic acid triazine deriv.
 fluorescent brightener mixts.)
 IT Detergents
 (laundry; contg. stilbenedisulfonic acid triazine deriv.
 fluorescent brightener mixts.)
 IT Fluorescent brighteners
 (prodn. of stilbenedisulfonic acid triazine deriv.
 fluorescent brightener mixts.)
 IT 287734-48-9P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (brightener; prodn. of stilbenedisulfonic acid triazine
 deriv. fluorescent brightener mixts
)
 IT 102-71-6, reactions 1305-62-0, Calcium hydroxide, reactions
 1305-78-8, Calcium oxide, reactions 1309-42-8, Magnesium hydroxide
 1309-48-4, Magnesium oxide, reactions 1310-58-3, Potassium
 hydroxide, reactions 1310-65-2, Lithium hydroxide 1310-73-2,
 Sodium hydroxide, reactions 7664-41-7, Ammonia, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in prodn. of stilbenedisulfonic acid triazine deriv.
 fluorescent brightener mixts.)
 IT 287728-12-5P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (intermediate; prodn. of stilbenedisulfonic acid triazine deriv.
 fluorescent brightener mixts.)
 IT 81-11-8, 4,4'-Diamino-2,2'-stilbenedisulfonic acid 108-77-0
 110-97-4, Diisopropanolamine 111-42-2, reactions 121-47-1,
 Metanilic acid 121-57-3, Sulfanilic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; prodn. of stilbenedisulfonic acid triazine
 deriv. fluorescent brightener mixts
)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L47 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1998:558915 HCAPLUS
 DOCUMENT NUMBER: 129:204141
 TITLE: Manufacture of N,N'-disubstituted
 4,4'-diaminostilbene-2,2'-disulfonic acids and
 brightening of polyamides, cellulose,
 and paper therewith
 INVENTOR(S): Feldhues, Ulrich; Brockmann, Rolf; Eckstein,
 Udo; Stamis, Detlef
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10226680	A2	19980825	JP 1998-46368	199802 13
DE 19706238	A1	19980827	DE 1997-19706238	199702 18
DE 19706238	B4	20050901		<--
EP 860437	A1	19980826	EP 1998-101951	199802 05
EP 860437	B1	20021030		<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
ES 2185069	T3	20030416	ES 1998-101951	199802 05
US 6025490	A	20000215	US 1998-22337	199802 11
PRIORITY APPLN. INFO.:			DE 1997-19706238	A
				199702 18

OTHER SOURCE(S): MARPAT 129:204141
 AB 4,4'-Diaminostilbene-2,2'-disulfonic acid (I) N,N'-disubstituted by
 4-[(SO₃M)_n-substituted anilino]-6-X-1,3,5-triazin-2-yl groups or its
 alkali metal and/or (un)substituted ammonium salts [n = 0-2; M = H,
 alkali metal, (un)substituted ammonium; X = anilino, N-alkylamino,
 N,N-dialkylamino, where the alkyl groups may contain O, N, and/or S
 and N,N-dialkylamino group may form satd. 5- or 6-membered
 heterocyclic ring] are manufd. by reaction of the compds. with X =
 Cl and XH at pH 5-10 in the presence or absence of acid scavengers
 other than XH, where the compds. are added to aq. media at
 ≥40° and XH and optionally the scavengers are added
 sep. to the media before, with, and/or after addn. of the compds.

Thus, adding dropwise an aq. soln. of 0.3 mol I disodium salt and Na₂CO₃ to an aq. soln. contg. NaCl, ethylene oxide-propylene oxide copolymer isodecyl ether, and 0.542 mol cyanuric chloride, further adding an aq. soln. of 0.664 mol diethanolamine to the mixt., further adding an aq. soln. of 0.528 mol Na sulfanilate to the mixt., adding the resulting mixt. to H₂O at 95° and pH 7.5, and heating gave a crude soln. contg. a product [X = N(CH₂CH₂OH)₂; M = Na; n = 1].

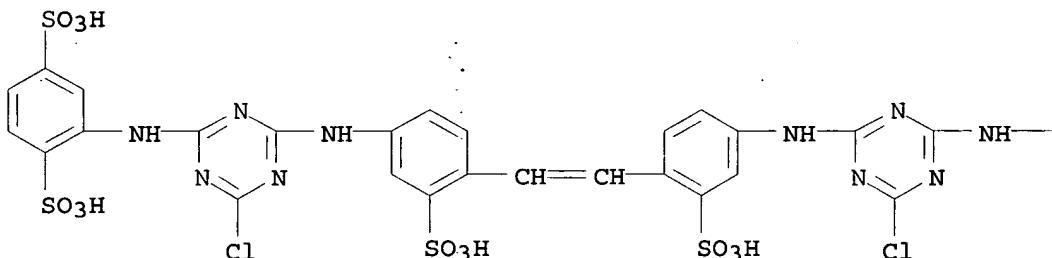
IT 142050-95-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for
brightening of polyamides, cellulose, and paper)

RN 142050-95-1 HCPLUS

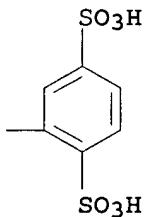
CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino])bis-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

PAGE 1-B



IC ICM C07D251-68

ICS C09B057-00; D21H019-16

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 43

ST anilinodietanolamino triazinylamino stilbenesulfonate
brightener manuf

IT Fluorescent brighteners

Paper

(manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for
brightening of polyamides, cellulose, and paper)

IT Polyamides, miscellaneous

RL: MSC (Miscellaneous)

- (manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)
- IT 497-19-8, Sodium carbonate, reactions 1310-73-2, Sodium hydroxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (acid scavenger; manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)
- IT 4404-43-7P 16090-02-1P 16470-24-9P 31900-04-6P 68971-49-3P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)
- IT 9004-34-6, Cellulose, miscellaneous
 RL: MSC (Miscellaneous)
 (manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)
- IT 62-53-3, Aniline, reactions 74-89-5, Methylamine, reactions 108-77-0, Cyanuric chloride 110-91-8, Morpholine, reactions 111-42-2, Diethanolamine, reactions 515-74-2, Sodium sulfanilate 7336-20-1, 4,4'-Diaminostilbene-2,2'-disulfonic acid disodium salt 142050-95-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (manuf. of N,N'-disubstituted diaminostilbenedisulfonic acids for brightening of polyamides, cellulose, and paper)

L47 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:787200 HCAPLUS

DOCUMENT NUMBER: 123:172636

TITLE: Manufacture of derivatives of
 4,4'-bis[4-(2,5-disulfoanilino)-2-s-triazinylamino]stilbene-2,2'-disulfonic acid for optical brighteners for paperINVENTOR(S): Zwierzynski, Krzysztof; Tarwacki, Andrzej;
 Higersberger, Ewa; Malasnicki, Wladyslaw L.;
 Rudzinska, Benita; Kalinowski, Jan; Guzewska,
 Teresa; Intek, Wieslaw

PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.

SOURCE: Pol., 6 pp.

CODEN: POXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
PL 163456	B1	19940331	PL 1991-290136	199105 06

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PRIORITY APPLN. INFO.:	PL 1991-290136	199105 06
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OTHER SOURCE(S): CASREACT 123:172636; MARPAT 123:172636

GI For diagram(s), see printed CA Issue.

AB Synergistic mixts. of triazine derivs. I [X = diethanolamino, morpholino, or diethylamino, X1 =

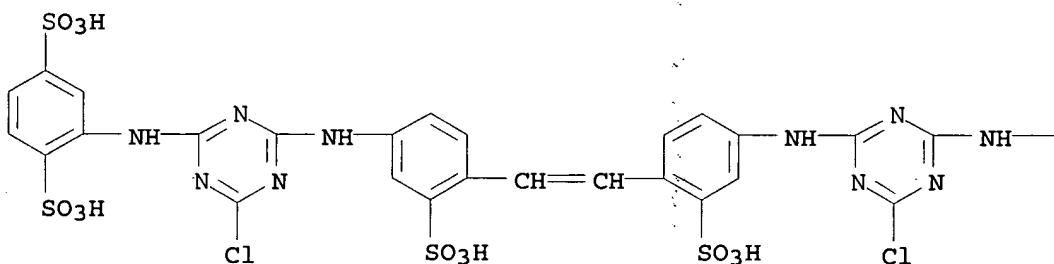
(2-cyanoethyl) (2-hydroxyethyl) amino, M = Na or H], triazine deriv. I (X = X1 = (2-cyanoethyl) (2-hydroxyethyl) amino, M = Na or H), and triazine derivs. I (X, X1 = diethanolamino, morpholino, or diethylamino, M = Na or H) for the title use are manufd. by reacting cyanuric chloride (II) with 2,5-disodiosulfoaniline (III) at III-II mol ratio (0.9-1.1):1, -5 to +40°, and pH 0.5-6.0 in water, reacting the resulting intermediate without purifn. with di-Na 4,4'-diaminostilbene-2,2'-disulfonate(IV) at IV-II mol ratio (0.35-0.50):1, 10-70°, and pH 2.5-8.0 in water, and reacting the 2nd intermediate without purifn. with N-(2-cyanoethyl)ethanolamine (V) and diethanolamine, morpholine, or Et₂N at amine-II mol ratio (1.0-1.2):1, V-other amine mol ratio 1:(0.1-9.0), and 90-101°, raising the pH to 3-13, removing the water by distn., and optionally decreasing the pH to ≤5.

IT 142050-95-1DP, reaction products with (cyanoethyl)ethanolamine and secondary amines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of mixts. of derivs. of bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for optical brighteners for paper)

RN 142050-95-1 HCPLUS

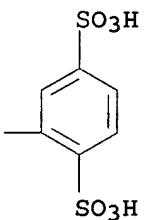
CN 1,4-Benzenedisulfonic acid, 2,2'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino](6-chloro-1,3,5-triazine-4,2-diyl)imino])bis-, hexasodium salt (9CI) (CA INDEX NAME).

PAGE 1-A



●6 Na

PAGE 1-B



IC ICM C07D251-68
CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 43

ST sulfoanilino triazinylamino stilbenedisulfonate deriv optical
brightener; ethylamino triazinylaminostilbene deriv optical
brightener; morpholino triazinylaminostilbene deriv optical
brightener; ethanolamino triazinylaminostilbene deriv
optical brightener; cyanoethylmethanolamino
triazinylaminostilbene deriv optical brightener; paper
optical brightener triazinylaminostilbene deriv

IT **Fluorescent brighteners**
(manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical brighteners for paper)

IT 17752-68-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate; manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical brighteners for paper)

IT 109-89-7DP, Diethylamine, reaction products with hexasodium
bis[(disulfoanilino)triazinylamino]stilbenedisulfonate 110-91-8DP,
Morpholine, reaction products with hexasodium
bis[(disulfoanilino)triazinylamino]stilbenedisulfonate 111-42-2DP,
Diethanolamine, reaction products with hexasodium
bis[(disulfoanilino)triazinylamino]stilbenedisulfonate
33759-44-3DP, N-(2-Cyanoethyl)ethanolamine, reaction products with
hexasodium bis[(disulfoanilino)triazinylamino]stilbenedisulfonate
142050-95-1DP, reaction products with
(cyanoethyl)ethanolamine and secondary amines
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical brighteners for paper)

IT 108-77-0, Cyanuric chloride 7336-20-1, Disodium
4,4'-diaminostilbene-2,2'-disulfonate 41184-20-7,
2,5-Disodiosulfoaniline
RL: RCT (Reactant); RACT (Reactant or reagent)
(precursor; manuf. of mixts. of derivs. of
bis[(disulfoanilino)triazinylamino]stilbenedisulfonic acid for
optical brighteners for paper)

L47 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:511678 HCAPLUS
DOCUMENT NUMBER: 122:252037
TITLE: Ballasted optical brighteners
INVENTOR(S): Adin, Anthony; Bagchi, Pranab
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
US 5395748	A	19950307	US 1993-164091	199312 08

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EP 662634

A1

19950712

EP 1994-119241

199412
06

EP 662634

B1

19980819

R: BE, CH, DE, FR, GB, IT, LI, NL

JP 07207174

A2

19950808

JP 1994-303695

199412
07

PRIORITY APPLN. INFO.:

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US 1993-164091

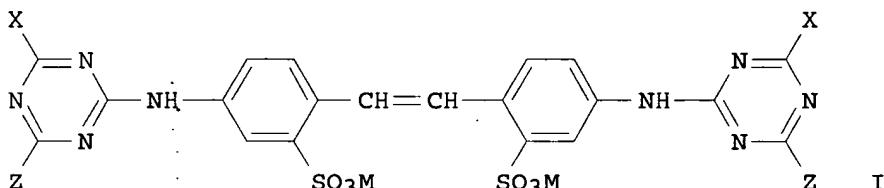
A

199312
08

OTHER SOURCE(S) :

<--
MARPAT 122:252037

GI



AB An inexpensive, ballasted optical **brightener** for use in photog. elements is prep'd. by reacting an optical **brightener** I [M is a cation; X is a group capable of undergoing nucleophilic displacement; and Z is -N(R₂)R₁ or -OR₃, where each of R₁ and R₂ is a H atom, or an arom. group which can be unsubstituted or substituted with ≥1 groups unreactive towards X; and R₃ is an arom. group which can be unsubstituted or substituted with ≥1 groups unreactive towards X with a H₂O sol. polymer, such as gelatin]. The resulting ballasted optical **brightener** is stable in aq. photog. **compns.**

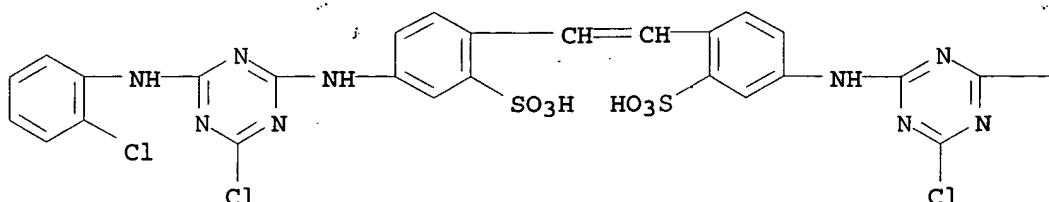
IT 156645-26-0D, gelatin-grafted

RL: DEV (Device component use); USES (Uses)
(optical **brightener** for photog. material)

RN 156645-26-0 HCPLUS

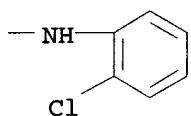
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(2-chlorophenyl)amino]-1,3,5-triazin-2-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B



IC ICM G03C001-815

INCL 430512000

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST ballasted optical brightener photog paper; gelatin grafted optical brightener

IT Photographic paper
(gelatin grafted optical brightener)IT Fluorescent brighteners
(gelatin grafted; for photog. material)IT Gelatins, uses
RL: DEV (Device component use); USES (Uses)
(optical brightener grafted with; photog. material)IT 156645-26-0D, gelatin-grafted
RL: DEV (Device component use); USES (Uses)
(optical brightener for photog. material)

L47 ANSWER 9 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:10315 HCPLUS

DOCUMENT NUMBER: 120:10315

TITLE: Reactive dye compositions and dyeing
cellulosic fibers using the same

INVENTOR(S): Kotani, Junji; Tabei, Tatsu; Ogawa, Eiichi

PATENT ASSIGNEE(S): Nippon Kayaku Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 05070706

A2

19930323

JP 1991-260520

199109

12

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JP 2957034

B2

19991004

JP 1991-260520

199109

12

<--

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compns. providing dyeing with good chlorinated water fastness and reproducibility contain dyes of free-acid form I and II (R = C1-4 alkyl, alkoxyalkyl; R1, R2 = H, Cl; X, Y = H, sulfo; Z = Me, carboxy). Cotton was level dyed bright greenish yellow with 1:1 mixt. of I (R1 = R2 = H; 4-SO₃H; Z = carboxy) and II (R = Et; X = Y = H).

IT 84434-56-0

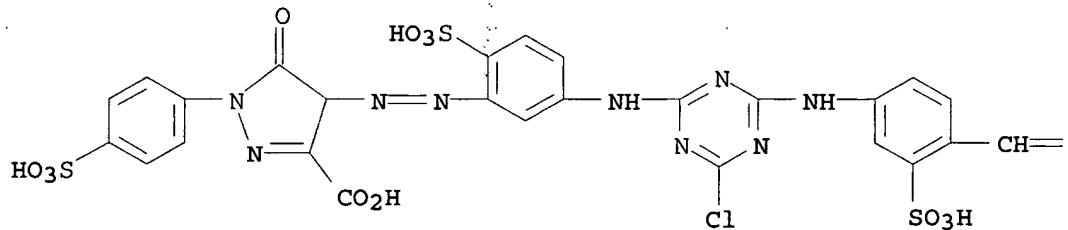
RL: USES (Uses)

(dye mixts. contg., for cotton)

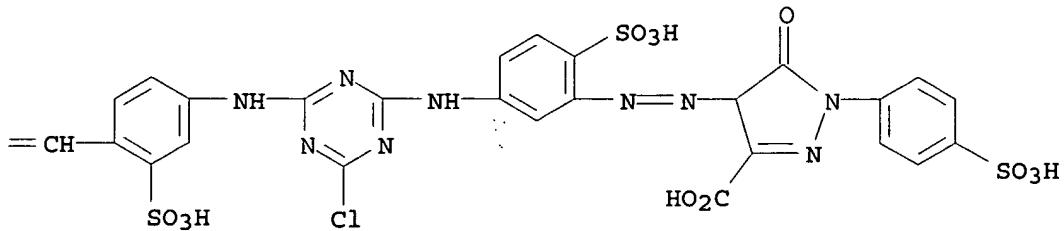
RN 84434-56-0 HCPLUS

CN 1H-Pyrazole-3-carboxylic acid, 4,4'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino(6-sulfo-3,1-phenylene)azo])bis[4,5-dihydro-5-oxo-1-(4-sulfophenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C09B067-22

ICS D06P001-382; D06P003-66; D06P003-87

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 41
 ST reactive azo dye mixt cotton
 IT 84434-56-0 91754-67-5
 RL: USES (Uses)
 (dye mixts. contg., for cotton)

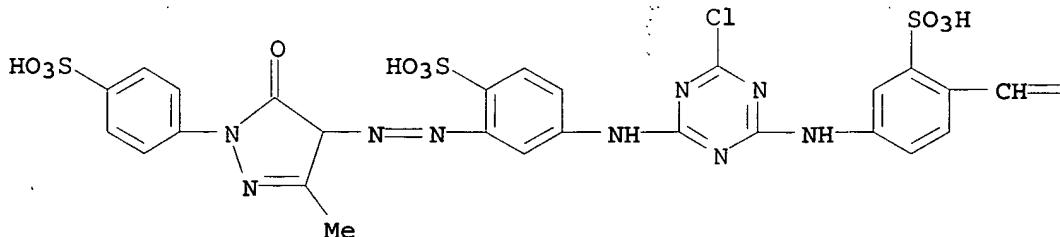
L47 ANSWER 10 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1989:498857 HCPLUS
 DOCUMENT NUMBER: 111:98857
 TITLE: Development and application of KE-type reactive dyes
 AUTHOR(S): Yang, Junhao
 CORPORATE SOURCE: Shanghai Dyeing No. 8 Plant, Shanghai, Peop. Rep. China
 SOURCE: Fangzhi Xuebao (1989), 10(1), 41-3
 CODEN: FCHPDI; ISSN: 0253-9721
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

AB The dyeing of cotton and cotton-polyester blends with C.I. Reactive Bright Yellow KE-3G, C.I. Reactive Yellow KE-4R, C.I. Reactive Red KE-3B, C.I. Reactive Red KE-7B, and C.I. Reactive Deep Blue KE-R was reported. Excellent results were obtained for cotton fabrics dyed with these dyes.

IT 59917-87-2
 RL: USES (Uses)
 (dyes, for cotton and cotton-polyester blends)

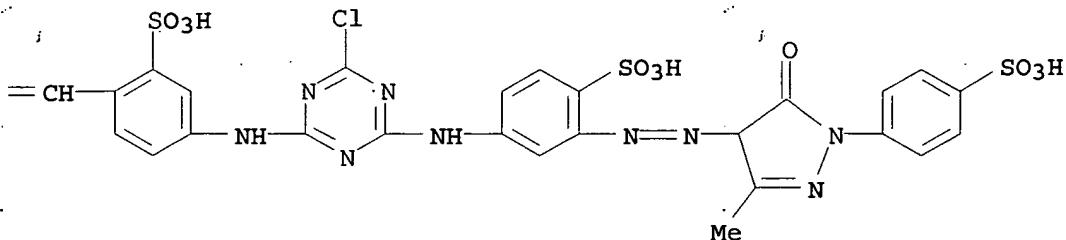
RN 59917-87-2 HCPLUS
 CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[[3-[[4,5-dihydro-3-methyl-5-oxo-1-(4-sulfophenyl)-1H-pyrazol-4-yl]azo]-4-sulfophenyl]amino]-1,3,5-triazin-2-yl]amino]-, hexasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●6 Na

PAGE 1-B



CC 40-6 (Textiles and Fibers)

IT Dyeing

(reactive, of cotton and cotton-polyester blends, with
KE reactive dyes)IT 59917-87-2 61951-85-7, Yellow KE 4R 68214-04-0
122268-23-9 122392-54-5, Red KE 7BRL: USES (Uses)
(dyes, for cotton and cotton-polyester blends)

L47 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:53209 HCAPLUS

DOCUMENT NUMBER: 100:53209

TITLE: Optical whitener of the
bistriazinylaminostilbene seriesINVENTOR(S): Domide, Aneta; Saidac, Serban; Mihis, Ana
Bianca; Prejmereanu, Ioan; Stoenescu, Caterina;
Bondric, ConstantinPATENT ASSIGNEE(S): Intreprinderea de Medicamente si Coloranti
"Sintofarm", Rom.SOURCE: Rom., 2 pp. Addn. to Rom. 62,947.
CODEN: RUXXA3

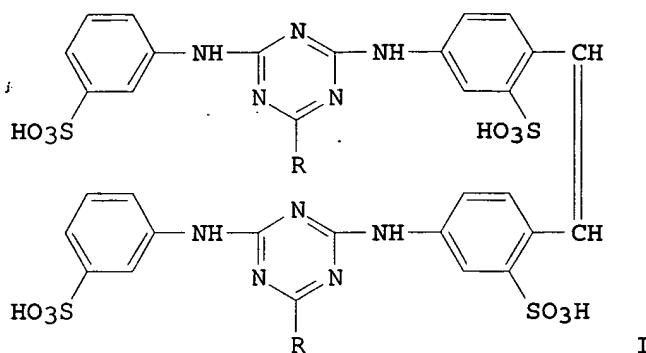
DOCUMENT TYPE: Patent

LANGUAGE: Romanian

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RO 77400	M	19811104	RO 1979-97774	197906 09
RO 62947	B	19780515	RO 1974-77183	197401 03
PRIORITY APPLN. INFO.:			RO 1974-77183	A 197401 03
GI			<--	

**AB Fluorescent brightener I [R = N(CH₂CH₂OH)₂]**

[5131-70-4] is manufd. by reaction of 1 mol I(R = Cl) (II) [88466-02-8] as an aq. paste with 2-2.04 mol diethanolamine [111-42-2] at reflux for 1 h, followed by dilg., pptg. with 25% (based on reaction-mixt. vol.) NaCl, redissolving, spray-drying, and mixing with 300 kg Na₂SO₄/mol cyanuric chloride used to prep. II or by dilg., mixing with Na₂SO₄, and spray-drying.

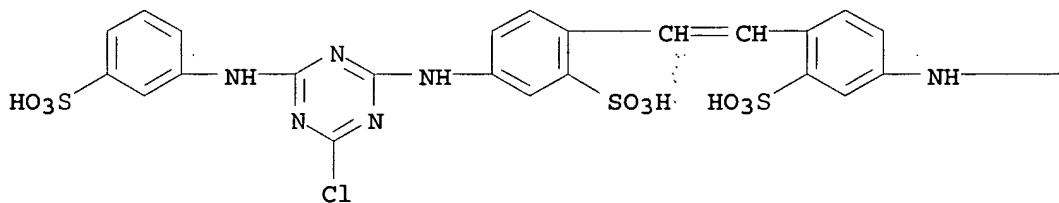
IT 88466-02-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diethanolamine)

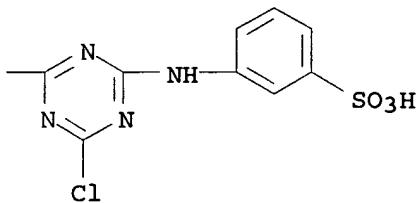
RN 88466-02-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

**IC C09B027-02**

CC 41-10 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 25, 28

**ST triazinylaminostilbene deriv fluorescent
brightener; diethanolamine reaction**

bischlorotriazinylaminostilbene deriv; amination
 bischlorotriazinylaminostilbene deriv; stilbene fluorescent
 brightener manuf

IT **Fluorescent brighteners**

(bis[[bis(hydroxyethyl)amino](sulfoanilino)triazinylamino]stilben
 edisulfonic acid, manuf. of)

IT **88466-02-8**

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diethanolamine)

L47 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983:35526 HCAPLUS

DOCUMENT NUMBER: 98:35526

TITLE: **Fluorescent brightener
 compositions**

PATENT ASSIGNEE(S): Showa Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

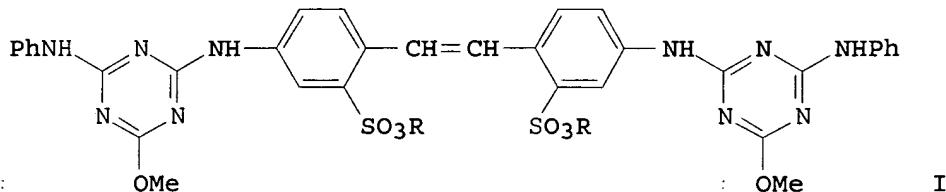
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57123262	A2	19820731	JP 1981-8991	198101 26
<-- JP 1981-8991				198101 26
<--				

GI



AB **Fluorescent whitener compns. for**
 plastics, textiles, paper, and paper coatings contain C1-4
 tetraalkylammonium salts of anionic **fluorescent**
whiteners. For example, a melamine resin compd. contg. I (R
 = NMe₄) [84046-30-0] 0.4, Zn stearate 0.1, and TiO₂ 1.0% was molded
 at 160° and 270 kg/cm² for 2 min to give a **whitener**
 specimen with **fluorescent reflectance** (based on 100% for
 whitener-free control) 135%, compared with 129 and 125 for I
 (R = NHEt₃) and I (R = NCH₂PhMe₂C₁₂H₂₅), resp.

IT **84046-00-4**

RL: USES (Uses)
 (fluorescent brightener, for melamine resins)

RN **84046-00-4 HCAPLUS**

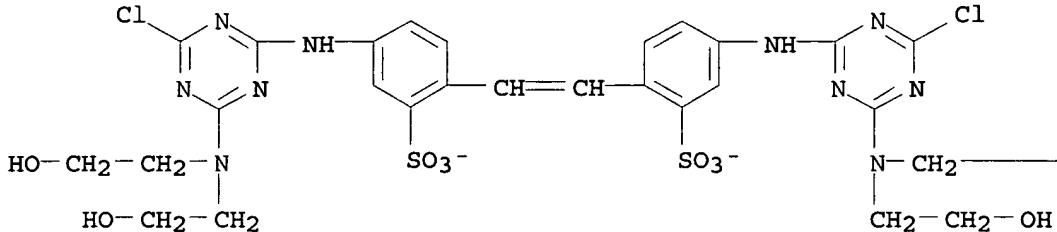
CN Methanaminium, N,N,N-trimethyl-, salt with 2,2'-(1,2-ethenediyil)bis[5-[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]benzenesulfonic acid] (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 84045-99-8

CMF C28 H30 Cl2 N10 O10 S2

PAGE 1-A

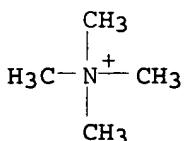


PAGE 1-B

— CH₂ — OH

CM 2

CRN 51-92-3
CMF C4 H12 N



IC C09B057-00; C11D003-42

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 40, 42, 43

ST triazinylaminostilbenedisulfonate fluorescent whitener; melamine resin fluorescent whitener; paper fluorescent whitener; coating fluorescent whitener; textile fluorescent whitener

IT Quaternary ammonium compounds, uses and miscellaneous
RL: USES (Uses)

(bis(triazinylamino)stilbenedisulfonate, fluorescent brighteners, for plastics, textiles, coatings and paper)

IT Fluorescent brighteners
 (bis(triazinylamino)stilbenedisulfonic acid deriv. quaternary ammonium salts, for plastics, textiles, coatings and paper)

IT Paper
 Polyamide fibers, uses and miscellaneous
 Rayon, uses and miscellaneous
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid quaternary ammonium salts as)

IT Coating materials
 (for paper, fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid quaternary ammonium salts as)

IT 84046-12-8
 RL: USES (Uses)
 (fluorescent brightener, for cotton)

IT 84045-92-1 84045-94-3 84045-95-4 84045-96-5 84045-98-7
 84046-00-4 84046-30-0
 RL: USES (Uses)
 (fluorescent brightener, for melamine resins)

IT 84046-14-0
 RL: USES (Uses)
 (fluorescent brightener, for paper)

IT 84045-98-7 84046-01-5 84046-16-2 84046-18-4 84046-20-8
 84046-22-0 84052-77-7
 RL: USES (Uses)
 (fluorescent brightener, for paper coatings)

IT 84046-29-7
 RL: USES (Uses)
 (fluorescent brightener, for paper coatings
 and rayon)

IT 84046-23-1 84046-25-3 84046-27-5
 RL: USES (Uses)
 (fluorescent brightener, for polyamide
 fibers)

IT 84046-03-7 84046-05-9 84046-07-1 84046-09-3 84046-11-7
 84046-12-8 84046-13-9
 RL: USES (Uses)
 (fluorescent brightener, for urea-melamine
 resins)

IT 84046-01-5
 RL: USES (Uses)
 (fluorescent brightener, for urea-melamine
 resins and ABS)

IT 84189-50-4
 RL: USES (Uses)
 (fluorescent brightener, for wool)

IT 9003-08-1 9003-56-9 25036-13-9
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid quaternary ammonium
 salts as)

L47 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1979:612581 HCAPLUS
 DOCUMENT NUMBER: 91:212581
 TITLE: Stable crystalline ammonium 4,4'-bis(6"-chloro-
 4"-aminotriazinyl-2"-amino)stilbene-2,2'-
 disulfonate

INVENTOR(S): Pirkl, Jaromir; Fisar, Ctibor
 PATENT ASSIGNEE(S): Czech.
 SOURCE: Czech., 2 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CS 178392	B	19790415	CS 1976-2493	197604 15
<- PRIORITY APPLN. INFO.: CS 1976-2493 197604 15				
<-				

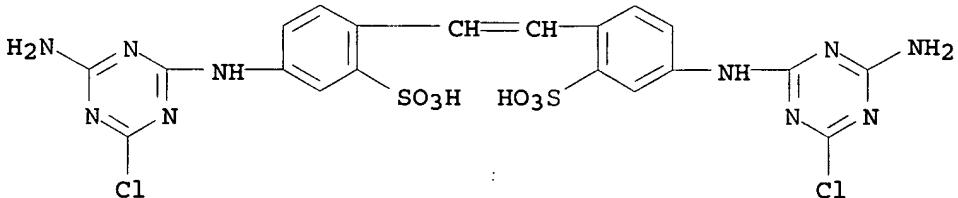
AB Cyanuric chloride [108-77-0] was condensed at 0-5° with Na 4,4'-diamino-stilbene-2,2'-disulfonate [25394-13-2] in an aq. suspension contg. NaHCO₃ and surfactant (Slovasol O), and the resultant mixt. contg. Na 4,4'-bis(6'',4''-dichlorotriazinyl-2''-amino)stilbene-2,2'-disulfonate was heated with a 100-200% excess of NH₄OH and NH₄Cl at 55-65° to yield 92% title compd. [72002-18-7], useful as a fluorescent whitener.

IT 72002-18-7P

RL: PREP (Preparation)
 (manuf. of stable cryst., for use as fluorescent brightener)

RN 72002-18-7 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]-, diammmonium salt (9CI) (CA INDEX NAME)



●2 NH₃

IC D06L003-12
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST stilbene fluorescent whitener cryst;
 chlorotriazinyl stilbene fluorescent whitener;
 aminotriazinyl stilbene fluorescent whitener;
 triazinylaminostilbene fluorescent whitener

IT Fluorescent brighteners
 (ammonium bis[(aminochlorotriazinyl)amino]stilbenedisulfonate,
 manuf. of stable cryst.)

IT 72002-18-7P

RL: PREP (Preparation)
 (manuf. of stable cryst., for use as fluorescent
 brightener)

L47 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:458708 HCAPLUS

DOCUMENT NUMBER: 91:58708

TITLE: Fluorescent brighteners

INVENTOR(S): Baltorowicz, Marian; Higersberger, Ewa;
 Rzeszowski, Jerzy; Graczyk, Bernard; Bielski,
 Mieczyslaw; Michalczyk, Leopold; Lakowska,
 Bogumila

PATENT ASSIGNEE(S): Instytut Przemyslu Organicznego, Pol.

SOURCE: Pol., 5 pp.

CODEN: POXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

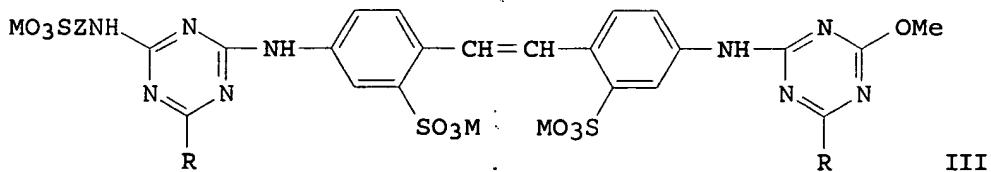
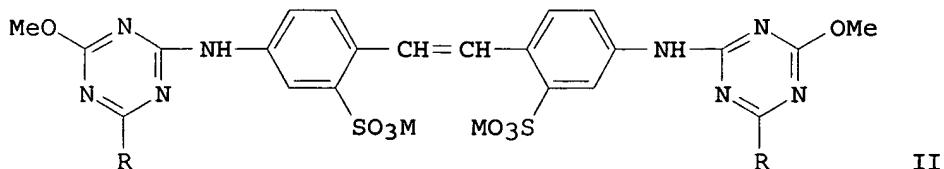
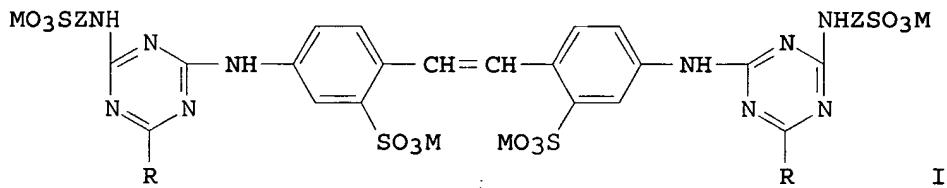
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 96554	P	19780131	PL 1974-192825	197406 08

PRIORITY APPLN. INFO.: PL 1974-192825 A 197406
08

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GI



AB **Fluorescent brighteners for cellulosic and polyamide fibers and paper, imparting increased intensity and purity of whiteness, consist of a mixt. of compds. I, II, and III (Z = m- or p-phenylene, R = residue of aliph., arom., or heterocyclic amine or NH₂, M = monovalent cation) contg. 20-65 parts III/100 parts mixt. The brighteners are prep'd. by condensing a mixt. of 4,6-dichloro-2-methoxy-s-triazine [3638-04-8] and 4,6-dichloro-2-(m-sulfophenylamino)-s-triazine [14121-39-2] or 4,6-dichloro-2-(p-sulfophenylamino)-s-triazine [16110-89-7] with 4,4'-diamino-2,2'-stilbenedisulfonic acid or its di-Na salt [7336-20-1]. The resulting intermediate, comprising a mixt. of compds. I (R = Cl), II (R = Cl), and III (R = Cl), is condensed with aliph., arom., or heterocyclic amines or with NH₃. A mercerized cotton fabric was immersed for 30 min at 40° in a bath contg. 4m³ H₂O, 20 kg NaCl, 1 kg Na₂CO₃, 0.3 kg fluorescent brightener consisting of 67 parts I [16470-25-0] and II [4470-72-8] and 33 parts III [58381-68-3] (Z = m-C₆H₄, R = N(CH₂CH₂OH)₂, M = Na in all structures), rinsed, and dried; it had a white color with a bluish shade, and the degree of brightening (calcd. according to the Anni-Berger formula) was 140.**

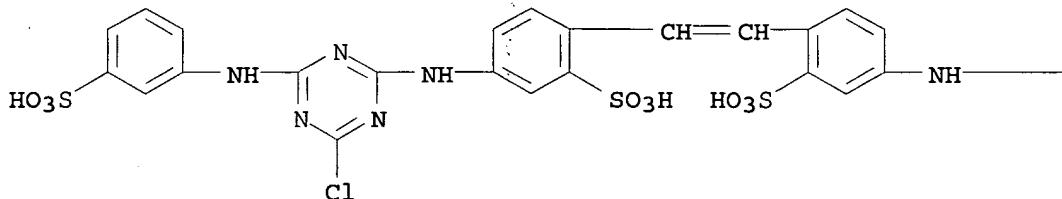
IT 37138-25-3P 37138-26-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with amines)

RN 37138-25-3 HCPLUS

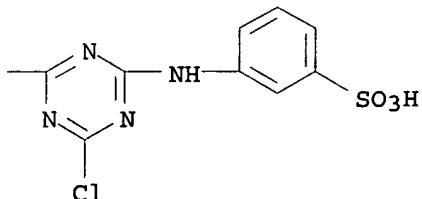
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

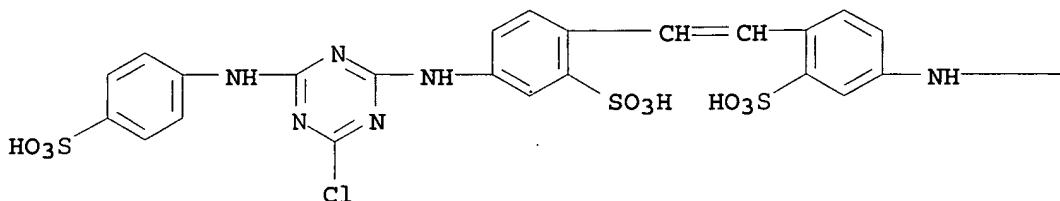
PAGE 1-B



RN 37138-26-4 HCPLUS

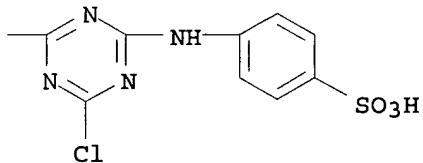
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-chloro-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]-, tetrasodium salt
(9CI) (CA INDEX NAME)

PAGE 1-A



●4 Na

PAGE 1-B

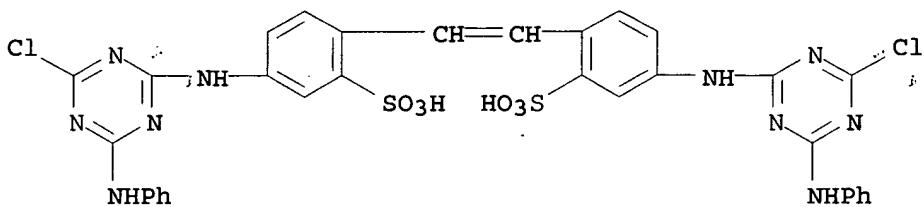


IC D06L003-12
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST triazinylaminostilbene fluorescent brightener
 mixt; aminostilbene fluorescent brightener
 mixt; stilbene fluorescent brightener
 mixt; cellulosic fiber fluorescent
 brightener; polyamide fiber fluorescent
 brightener; paper fluorescent brightener
 IT Fluorescent brighteners
 (bis(triazinylamino)stilbenedisulfonic acid deriv. mixts
 ., for cellulosic and polyamide fibers)
 IT Polyamide fibers, uses and miscellaneous
 Rayon, uses and miscellaneous
 RL: USES (Uses)
 (fluorescent brighteners for,
 bis(triazinylamino)stilbenedisulfonic acid deriv. mixts
 . as)
 IT 3426-43-5 3969-41-3 4470-72-8 12224-02-1 16324-27-9
 26858-67-3 34233-64-2 56418-98-5 58381-68-3 58381-69-4
 58381-70-7 58381-72-9
 RL: USES (Uses)
 (fluorescent brightener mixts.
 contg., manuf. and use on cellulosic fibers)
 IT 5108-90-7 28950-61-0 58381-71-8
 RL: USES (Uses)
 (fluorescent brightener mixts.
 contg., manuf. and use on polyamide fibers)
 IT 16110-89-7P 27076-29-5P 37138-25-3P 37138-26-4P

70894-33-6P 70894-35-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and reaction with amines)
 IT 3638-04-8 14121-39-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with amines, in fluorescent
 brightener manuf.)
 IT 111-42-2, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chlorotriazine dérivs., in fluorescent
 brightener manuf.)
 IT 62-53-3, reactions 110-91-8, reactions 141-43-5, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chlorotriazines, in fluorescent
 brightener manuf.)

L47 ANSWER 15 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:462412 HCPLUS
 DOCUMENT NUMBER: 83:62412
 TITLE: Fluorescent whitening agents
 AUTHOR(S): Anon.
 CORPORATE SOURCE: UK
 SOURCE: Research Disclosure (1975), 129, 13
 (No. 12940)
 CODEN: RSDSBB; ISSN: 0374-4353
 DOCUMENT TYPE: Journal; Patent
 LANGUAGE: English
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
RD 129040		19750110		
PRIORITY APPLN. INFO.:			RD 1975-129040	
19750110				
GI	For diagram(s), see printed CA Issue.			
AB	Detergent compns. contg. fluorescent whiteners I (R = morpholino, anilino, alkylamino, (hydroxyalkyl)amino; M = H, Na, K) or/and fluorescent whitener II (R1 = H, halogen; M = H, Na, K) incorporated at 0.01-2 wt.% were stabilized against yellowing by the addn. of 0.1-5 wt.%, particularly 0.2-1 wt.%, of nonionic surfactants, preferably of the fatty acid diester type, e.g. glycolstearates.			
IT	54114-81-7D, Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, derivs.			
	RL: USES (Uses) (fluorescent brightener, for detergents, nonionic surfactants for nonyellowing)			
RN	54114-81-7 HCPLUS			
CN	Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)			



CC 46-5 (Surface Active Agents and Detergents)
 ST detergent fluorescent brightener compn
 ; yellowing fluorescent brightener detergent;
 surfactant fluorescent brightener detergent;
 stilbene fluorescent brightener detergent
 IT Discoloration prevention
 (of fluorescent brighteners in detergent
 compns., by nonionic surfactants)
 IT Fluorescent brighteners
 (stilbene derivs., detergents contg., nonionic surfactants for
 nonyellowing)
 IT Detergents
 (stilbene fluorescent brightener-contg.,
 nonionic surfactants for nonyellowing)
 IT 54114-81-7D, Benzenesulfonic acid, 2,2'-(1,2-
 ethenediyl)bis[5-[4-chloro-6-(phenylamino)-1,3,5-triazin-2-
 yl]amino]-, derivs. 54275-75-1D, Benzenesulfonic acid,
 ([1,1'-biphenyl]-4,4'-diyldi-2,1-ethenediyl)bis-, derivs.
 RL: USES (Uses)
 (fluorescent brightener, for detergents,
 nonionic surfactants for nonyellowing)
 IT 9004-99-3
 RL: USES (Uses)
 (surfactant, for nonyellowing of fluorescent
 brighteners in detergent compns.)

L47 ANSWER 16 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1975:141997 HCPLUS
 DOCUMENT NUMBER: 82:141997
 TITLE: Whitening compositions
 containing bridged halotriazine activators
 PATENT ASSIGNEE(S): American Cyanamid Co.
 SOURCE: Fr. Demande, 10 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2222431	A1	19741018	FR 1974-9573	197403 20
FR 2222431	B1	19771007		<--
US 3907698	A	19750923	US 1973-343576	197303 21

AU 7465718	A1	19750821	AU 1974-65718	 --- 197402 18
IT 1004369	A	19760710	IT 1974-49216	 --- 197403 08
NL 7403230	A	19740924	NL 1974-3230	 --- 197403 11
BR 7402144	A0	19741105	BR 1974-2144	 --- 197403 19
JP 49127881	A2	19741206	JP 1974-30658	 --- 197403 19
BE 812565	A1	19740920	BE 1974-142219	 --- 197403 20
DD 111421	C	19750205	DD 1974-177355	 --- 197403 21
PRIORITY APPLN. INFO.: US 1973-343576 A				 --- 197303 21

GI For diagram(s), see printed CA Issue.

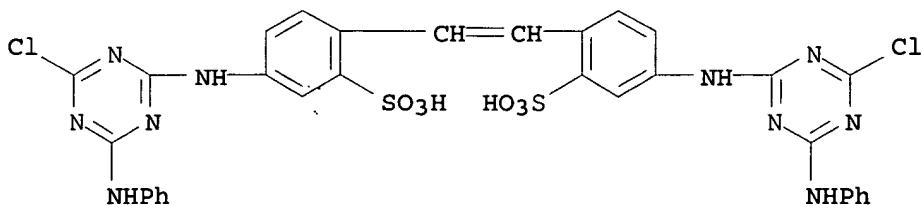
AB The stilbene derivs. I with R = anilino or methoxy were used as activators for Na perborate (II) [11138-47-9] in laundering. Thus, water contg. an alkylarenesulfonate 2, II 0.33, and I (R = anilino) [54114-81-7] 0.50 g/l. gave 42.8% removal of tea stains from cotton fabrics during laundering at 49°, compared with 35.9% removal without the I.

IT 54114-81-7

RL: CAT (Catalyst use); USES (Uses)
(activators, for sodium perborate in bleaching)

RN 54114-81-7 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)



IC C11D

CC 46-5 (Surface Active Agents and Detergents)

IT 26110-34-9 54114-81-7

RL: CAT (Catalyst use); USES (Uses)
(activators, for sodium perborate in bleaching)

L47 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1974:49277 HCAPLUS

DOCUMENT NUMBER: 80:49277

TITLE: Asymmetrically substituted bis-triazinylaminostilbene compounds as fluorescent whiteners

INVENTOR(S): Tscharner, Christopher J.

PATENT ASSIGNEE(S): Ciba-Geigy A.-G.

SOURCE: Patentschrift (Switz.), 4 pp.

CODEN: SWXXAS

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CH 541024	A	19731015	CH 1969-16014	196910 28
<--				
PRIORITY APPLN. INFO.:			CH 1969-16014	A 196910 28
<--				

AB Fluorescent whitener (I) [49831-00-7] was prep'd. and was used to whiten paper, cotton, and in acidic detergent compns. Thus, a mixt. of cyanuric chloride and p-H₂NC₆H₄SO₃H was condensed at pH 6.5-7 for 3 hr at 0.deg., 4,2-H₂N(HO₃S)C₆H₃CH:CHC₆H₃(SO₃H)NH₂-2,4 was added, and heated at 70-75.deg. at pH 8-8.5 to give the dichloro intermediate (II). II was heated with equimol. amts. of Et₂NH and 2,6-dimethylmorpholine at 40.deg. and when the pH reached 10.5-11 the mixt. was salted to give I.

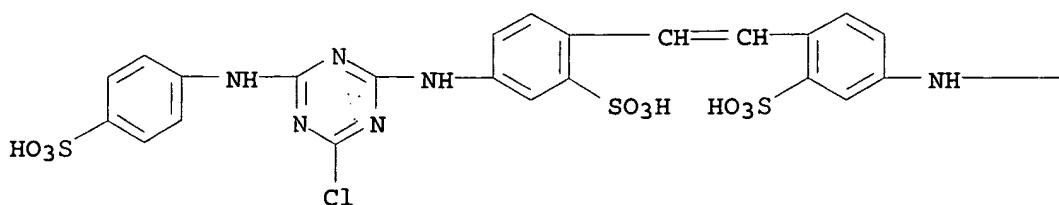
IT 33963-93-8P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prep'n. of)

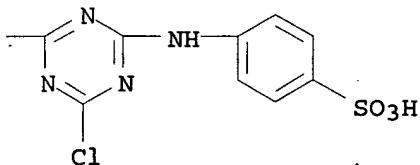
RN 33963-93-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(4-sulfophenyl)aminol]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



- IC D21H; C11D; D06L
 CC 40-11 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST paper fluorescent whitener; cotton
 fluorescent whitener; detergent
 fluorescent whitener; triazinylaminostilbene
 fluorescent whitener; stilbene fluorescent
 whitener
 IT Fluorescent brighteners
 (asymmetric bis[[[sulfoanilino)triazinyl]amino]stilbenedisulfonate derivs., cotton, paper and detergent)
 IT Detergents
 Paper
 (fluorescent brighteners for, asymmetric
 bis[[[sulfoanilino)triazinyl]amino]stilbenedisulfonate derivs.
 as)
 IT 27935-79-1P 33963-93-8P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L47 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1972:128684 HCAPLUS
 DOCUMENT NUMBER: 76:128684
 TITLE: Multicolor dyeing of polyamide yarns
 INVENTOR(S): Buehler, Arthur; Mosimann, Walter
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.
 SOURCE: Ger. Offen., 35 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2128834	A	19711223	DE 1971-2128834	197106 09
			<--	
DE 2128834	B2	19750626		
DE 2128834	C3	19760212		
CH 708809	A4	19740315	CH 1970-8809	197006 11
			<--	
CH 554453	B	19740930		
US 3775045	A	19731127	US 1971-150930	197106

08

BE 768329	A1	19711210	BE 1971-104452	197106 10

NL 7107984	A	19711214	NL 1971-7984	197106 10

FR 2100749	A1	19720324	FR 1971-21143	197106 10

FR 2100749	A5	19720324		
GB 1337598	A	19731114	GB 1971-27373	197106 10

PRIORITY APPLN. INFO.:			CH 1970-8809	A 197006 11

AB Wool or nylon 66 yarns were dyed bright and dark shades of the same color by resisting one part of the yarns with colorless, fiber-reactive compds., e.g. I-III, and dyeing the pretreated and the untreated parts in the usual manner to give bright and dark shades, resp. Thus, 100 parts wool yarn was treated with an aq. suspension (liquor ratio 1:40) contg. 6% 4,4'-bis(2,3-dibromopropionylamino) stilbene-2,2'-disulfonic acid (I) [34564-18-6], 2.5 HOAc (80%), and 1% mixt. of (A) 1 part 7:1 mole ethylene oxide-amine (30% C16H33NH₂, 25% C18H37NH₂, 45% C18H35NH₂) adduct quaternized with ClCH₂CONH₂ and (B) 1 part NH₄HSO₄ salt of the nonquaternized above adduct. After washing, the yarn was dyed together with 100 parts untreated wool yarn 60 min at 100.deg. in a bath (liquor ratio 1:40) contg. 0.75% 1-amino-4-[4-(α -bromoacryloylamino)-2-sulfophenylamino]anthraquinone-2-sulfonic acid [29547-38-4] and 0.5% A, pH adjusted to 5.5 by HOAc. After cooling to 80.deg., pH was adjusted to 8.5 with NH₄OH, and the yarns were washed and dried to give blue or bright blue shades on the untreated or pretreated yarns, resp. If the pretreatment was performed with only 3% I or without A, a smaller contrast between pretreated and untreated fibers was obtained.

IT 36366-21-9

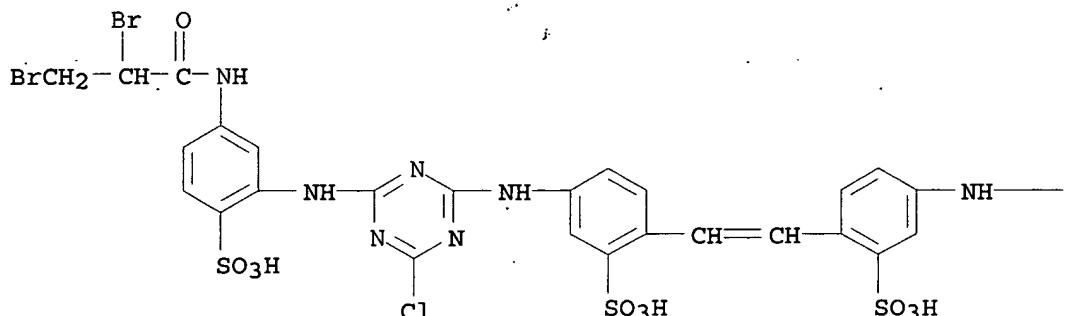
RL: USES (Uses)

(dye resists, in multicolor dyeing of polyamide fiber yarns)

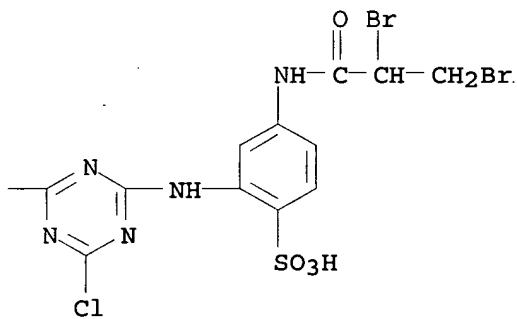
RN 36366-21-9 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2,3-dibromo-1-oxopropyl)amino]-2-sulfophenyl]amino]-1,3,5-triazin-2-yl]amino] - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC D06P
 CC 39 (Textiles)
 IT 34564-18-6 36271-60-0 36366-21-9 36524-22-8
 RL: USES (Uses)
 (dye resists, in multicolor dyeing of polyamide fiber yarns)

L47 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1971:450422 HCAPLUS

DOCUMENT NUMBER: 75:50422

TITLE: Bis(triazinylamino)stilbene fluorescent whitening agent

INVENTOR(S): Horlacher, Paul; Creutzburg, Gerhard

PATENT ASSIGNEE(S): Geigy, J. R., A.-G.

SOURCE: Ger. Offen., 19 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2051718	A	19710429	DE 1970-2051718	197010 21
CH 535775	A	19730530	CH 1969-15763	<-

FR 2066295	A5	19710806	FR 1970-37954	196910 22
GB 1318217	A	19730523	GB 1970-50033	197010 21
				<--
PRIORITY APPLN. INFO.:			CH 1969-15763	A
			196910 22	
<--				

GI For diagram(s), see printed CA Issue.

AB An unsym. bis(triazinylamino)stilbene (I) was prep'd. (as the diethanolamine salt), dild. to form a stable 25% aq. soln., and used as a fluorescent whitener for cotton fabric and esp. paper. Thus, 0.542 mole p-H₂NC₆H₄SO₃H was treated 3 hr with 0.542 mole aq. cyanuric chloride at 0° and pH 1-2, 0.257 mole di-Na 4,4'-diaminostilbene-2,2'-disulfonate added at pH 6-7, heated 1 hr at 90-5°, the product pptd. by NaCl, added wet to 0.545 mole (HOCH₂CH₂)₂NH and 0.545 mole of a mixt. of 58% 2,5-, 36% 3,5-, and 8% 2,3-dimethylmorpholine, dild. with H₂O to 900 g, heated at 90-5° for 1 hr, cooled, treated with 150 g EtoCH₂CH₂OH and 58 g (HOCH₂CH₂)₂NH, and dild. with 40 ml H₂O to give a whitener concn. of 25%.

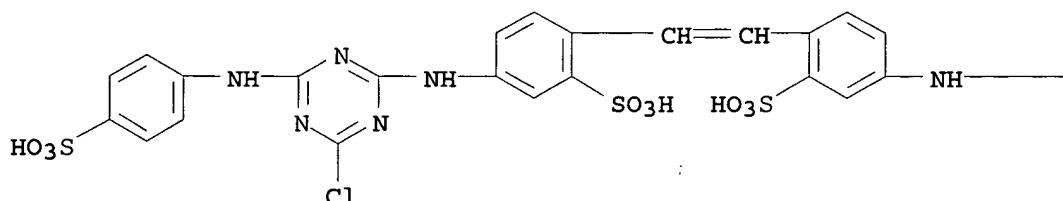
IT 33963-93-8P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

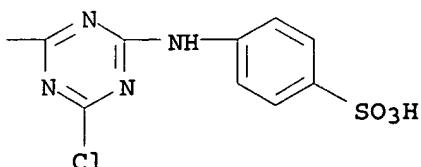
RN 33963-93-8 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyi)bis[5-[[4-chloro-6-[(4-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC D06L

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 ST triazinyl stilbene fluorescent whitener;
 morpholine deriv fluorescent whitener;
 diethanolamine deriv fluorescent whitener; paper
 fluorescent whitener; cotton fluorescent
 whitener
 IT Fluorescent brightening agents
 (bis[[sulfoanilino]triazinyl]amino)stilbenedisulfonic acid
 unsym. amino derivs., for cotton)
 IT Paper
 (fluorescent brightening agents for,
 bis[[sulfoanilino]triazinyl]amino)stilbenedisulfonic acid unsym.
 amino derivs. as)
 IT 33963-93-8P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of)

L47 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1971:113261 HCAPLUS
 DOCUMENT NUMBER: 74:113261
 TITLE: Guanidinium salts of aminostyrenesulfonic acids
 as whitening agents
 INVENTOR(S): Horstmann, Walter
 PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
 SOURCE: Ger. Offen., 23 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1929664	A	19701217	DE 1969-1929664	196906 11
AT 297652	B	19720410	AT 1970-5011	197006 04
US 3759900	A	19730918	US 1970-43580	197006 04
BE 751846	A	19701116	BE 1970-751846	197006 11
NL 7008549	A	19701215	NL 1970-8549	197006 11
FR 2051094	A5	19710402	FR 1970-21486	197006 11
GB 1292520	A	19721011	GB 1970-1292520	197006

11

CH 708828 A4 19740913 CH 1970-8828

197006
11<--
DE 1969-1929664 A196906
11

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PRIORITY APPLN. INFO.:

GI For diagram(s), see printed CA Issue.

AB The title compds. (I), prep'd. from $(RNH)2C:NH.HX$ ($R = H, Ph, C12H25$) and the di-Na salts of the sulfonic acids, were used as fluorescent whitening agents for polyamide, polyamide-rayon, cotton-polyester, or cotton poplin textiles. Thus, an aq. suspension of II was treated at 40° with a soln. of $(PhNH)2C:NH.HCl$ and stirred for 3 hr at 40° to give I ($R = R1 = 4\text{-phenyl-2H-v-triazol-2-yl}, R2 = Ph$), which whitened both fibers in a nylon-rayon blend. Similarly 4 other I were prep'd.

IT 31871-59-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

RN 31871-59-7 HCPLUS

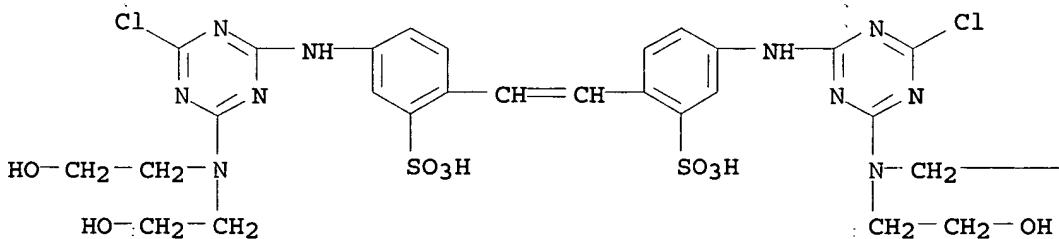
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxyethyl)amino]-6-chloro-s-triazin-2-yl]amino]-, compd. with 1,3-diphenylguanidine (1:2) (8CI) (CA INDEX NAME)

CM 1

CRN 50570-59-7

CMF C28 H32 Cl2 N10 O10 S2

PAGE 1-A

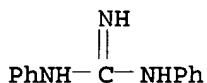


PAGE 1-B

— CH_2OH

CM 2

CRN 102-06-7
CMF C13 H13 N3



IC C07C; C07D
CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
ST guanidinium aminostyrenesulfonates whitening
IT Fiber, polyester, uses and miscellaneous
Nylon, uses and miscellaneous
RL: USES (Uses)
(fluorescent brightening agents for,
guanidine compds. with ditriazolylstilbenedisulfonic acid derivs.
as)
IT Fluorescent brightening agents
(guanidine compds. with ditriazolylstilbenedisulfonic acid
derivs., synthetic fibers)
IT 31773-50-9P 31773-51-0P 31773-52-1P 31773-53-2P
31871-59-7P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

L47 ANSWER 21 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1969:503114 HCPLUS
DOCUMENT NUMBER: 71:103114
TITLE: Bis(triazinylamino)stilbene fluorescent
whitening agents
INVENTOR(S): Noguchi, Tamehiko; Sumitani, Mitsukuni
PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd.
SOURCE: Jpn. Tokkyo Koho, 5 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 44004605	B4	19690225	JP	196602 07

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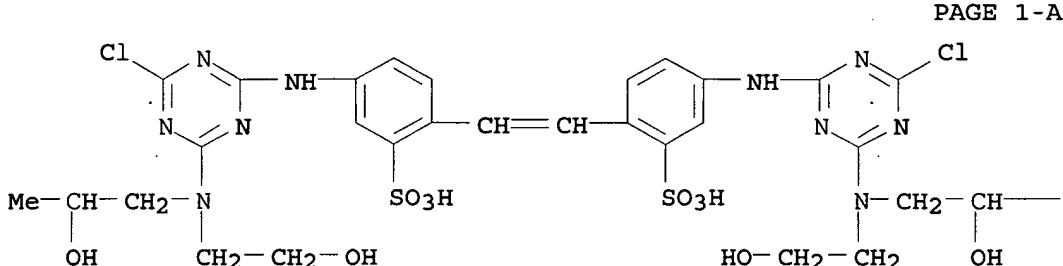
GI For diagram(s), see printed CA Issue.
AB I (R and R2 = CH₂CH₂OH or CHO₂Me, R₁ and R₃ = CH₂CH₂OH, CH₂CHO₂Me,
or CH₂CHOHET, R₄ = H or Na) are used as fluorescent
brighteners for nylon, woolen, and cotton fabrics to improve
light fastness, wash fastness, and whiteness of the
fabrics. For example, 100 parts a nylon fabric was treated with a
mixt. (pH4) of 0.2 part I (R = CH₂CH₂OH, R₁ = R₂ =
CH₂CHOH₂Me, R₃ = Na) and 6 parts a nonionic surfactant in 3000 parts
water at 80° for 30 min.

IT 13281-94-2 23578-04-3 23612-96-6
25732-69-8 25845-38-9

RL: USES (Uses)
(in bleaching and stabilization of textiles)

RN 13281-94-2 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxypropyl)amino]-s-triazin-2-yl]amino]-, disodium salt (8CI) (CA INDEX NAME)



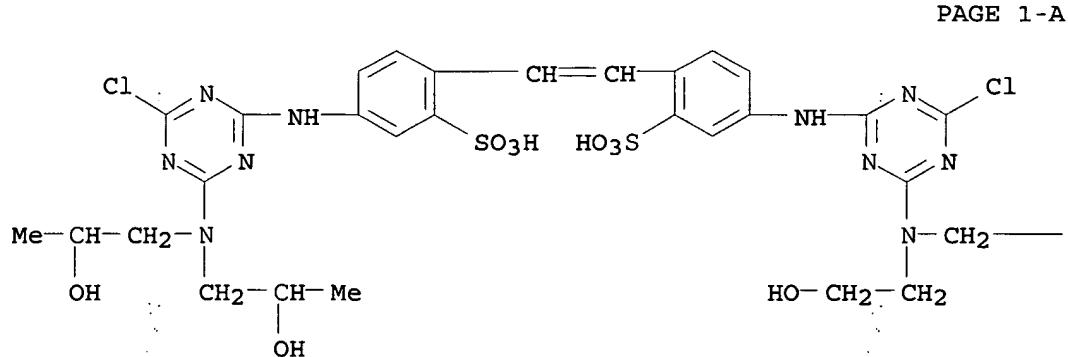
●2 Na

PAGE 1-B

— Me

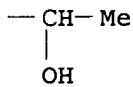
RN 23578-04-3 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4-[[4-[bis(2-hydroxypropyl)amino]-6-chloro-s-triazin-2-yl]amino]-4'--[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxypropyl)amino]-s-triazin-2-yl]amino]-, disodium salt (8CI) (CA INDEX NAME)



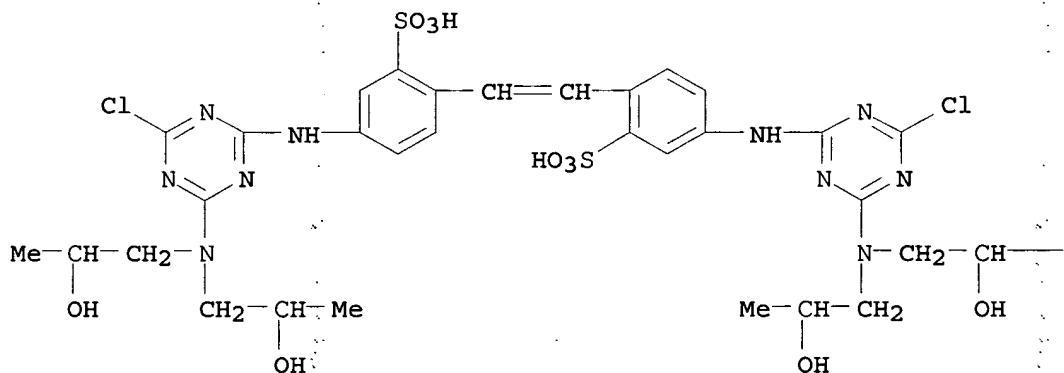
●2 Na

PAGE 1-B



RN 23612-96-6 HCPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[bis(2-hydroxypropyl)amino]-6-chloro-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A

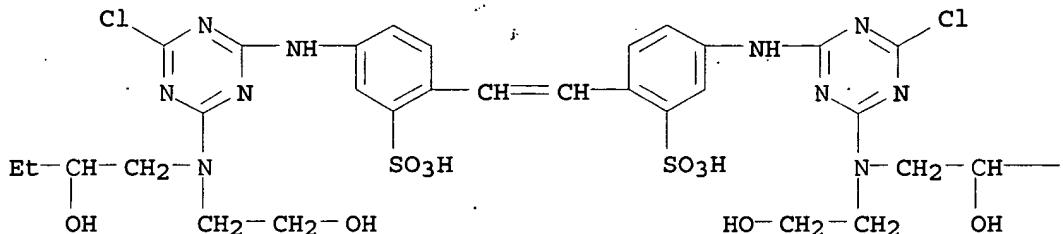


PAGE 1-B

— Me

RN 25732-69-8 HCPLUS
 CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(2-hydroxybutyl)(2-hydroxyethyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

PAGE 1-A

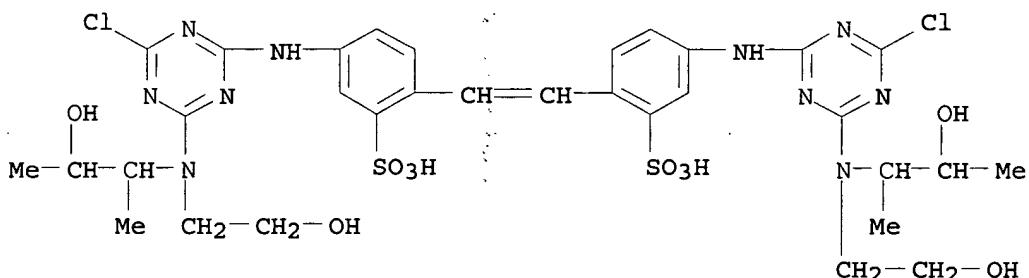


PAGE 1-B

— Et

RN 25845-38-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxy-1-methylpropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)

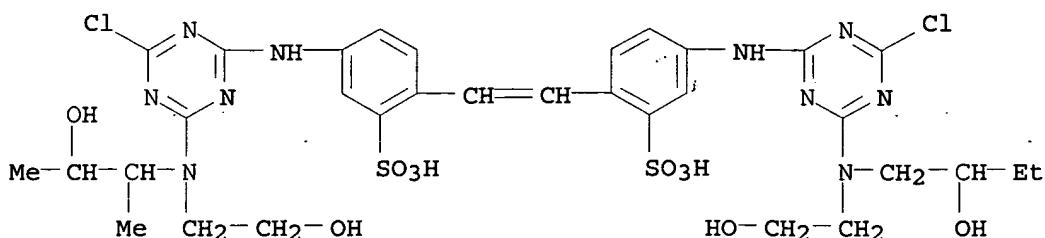


IT 23646-79-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prep. of)

BN 23646-79-9 HCAPLUS (prepr. 31)

2,2'-Stilbenedisulfonic acid, 4-[[4-chloro-6-[(2-hydroxybutyl)(2-hydroxyethyl)amino]-s-triazin-2-yl]amino]-4'-'[[4-chloro-6-[(2-hydroxyethyl)(2-hydroxy-1-methylpropyl)amino]-s-triazin-2-yl]amino]- (8CI) (CA INDEX NAME)



INCL 48B04

CC 39 (Textiles)

ST fluorescent brightening fabrics;
brightening fabrics fluorescent; fabrics
fluorescent brightening; triazines
fluorescent brightening; stilbenes
fluorescent brightening

IT Bleaching
(fluorescent, with stilbenedisulfonic acid
triazinylamino derivs.)

IT 13281-94-2 14848-03-4 23578-04-3
23612-96-6 25732-69-8 25845-38-9

RL: USES (Uses)
(in bleaching and stabilization of textiles)

IT 23646-79-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

L47 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1966:68476 HCAPLUS

DOCUMENT NUMBER: 64:68476

ORIGINAL REFERENCE NO.: 64:12851h, 12852a-c

TITLE: Anthraquinone dyes

INVENTOR(S): Peter, Albin; Baserga, Emilio; Guenthard,
Jacques

PATENT ASSIGNEE(S): Sandoz Ltd.

SOURCE: 6 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CH 395397		19651231	CH 1958-63736	195809 09

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GI For diagram(s), see printed CA Issue.

AB I, blue dyes for silk, wool, and synthetic polyamides, are prep'd.
from 1-amino-4-bromoanthraquinone-2-sulfonic acid (II) or
-2,6-disulfonic acid, and a substituted aniline in aq. or aq. alc.
soln. in the presence of a Cu catalyst and Na₂CO₃ or NaHCO₃. When Y
= H, I can be halogenated in concd. H₂SO₄ or dil. oleum at
0-5°; the anilino ring may be sulfonated in H₂SO₄ with 25%
oleum. A soln. of 1,3-diamino-2,4,6-trimethylbenzene-5-sulfonic
acid 92, Na₂CO₃ 24, and H₂O 200 parts was added to a mixt.
of II (Na salt) 81, Cu powder 2, Na₂CO₃ 32, and H₂O 200

parts and the mixt. heated at 50-5° for 20 hrs., then at 60-5° until II disappeared. The mixt. was poured into 1000 parts H₂O, 350 parts 30% HCl was added and the mixt. filtered, washed with dil. HCl and pasted neutral with Na₂CO₃ to give I (R = X = H, V = SO₃Na, W = Y = Me) (III), bright blue on silk, wool, and polyamides. A soln. of 5.4 parts III in 50 parts H₂O treated with 2 parts Ac₂O and 3 parts NaHCO₃ at 60-70° gave the III analog with R = Ac. Similarly, the following I were prep'd. (X, R, W, V, and Y given): H, CO₂C₁₀H₂₁, Me, SO₃Na, Me; H, H, H, Me; H, Ac, SO₃H, H, Me; H, Ac, H, H, Me; H, H, Me, NH₂, Me; SO₃Na, Ac, Me, H, H; SO₃Na, Ac, Me, H, Br; SO₃Na, H, Me, NH₂, Me; SO₃Na, H, Et, H, Et; SO₃Na, COCH:CH₂, Et, H, Et.

IT 6015-82-3, 2,2'-Stilbenedisulfonic acid,

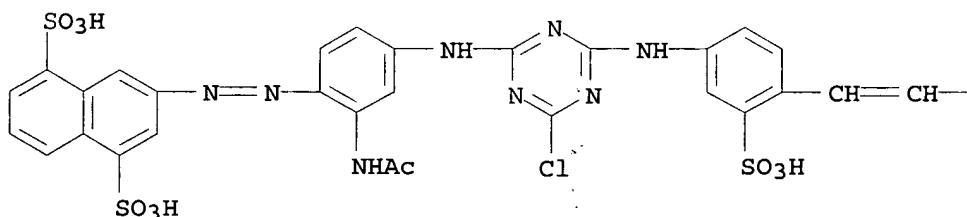
4,4'-bis[4-[3-acetamido-4-[(4,8-disulfo-2-naphthyl)azo]anilino]-6-chloro-s-triazin-2-yl]amino] - 6401-16-7,

2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-[4-[(4-amino-3-sulfo-1-anthraquinonyl)amino]-2-sulfoanilino]-6-chloro-s-triazin-2-yl]amino] - (prepn. of)

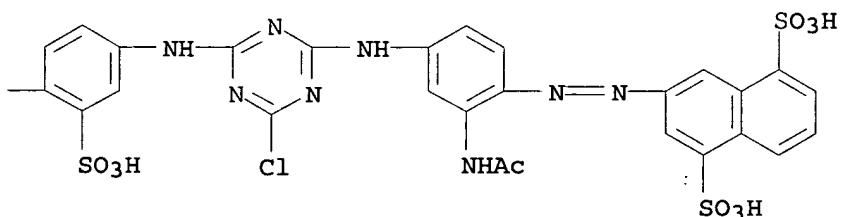
RN 6015-82-3 HCPLUS

CN 1,5-Naphthalenedisulfonic acid, 3,3'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino[2-(acetylamino)-4,1-phenylene]azo])bis- (9CI) (CA INDEX NAME)

PAGE 1-A



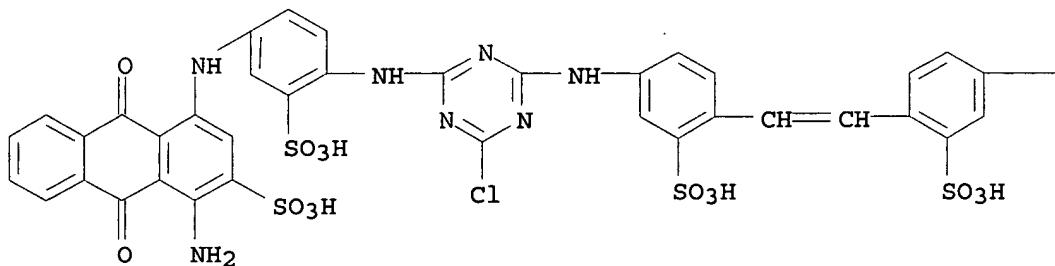
PAGE 1-B



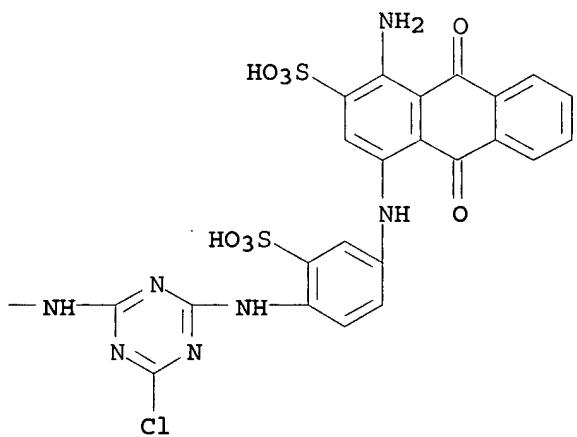
RN 6401-16-7 HCPLUS

CN 2-Anthracenesulfonic acid, 4,4'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)imino(3-sulfo-4,1-phenylene)imino])bis[1-amino-9,10-dihydro-9,10-dioxo- (9CI) (CA INDEX NAME)]

PAGE 1-A



PAGE 1-B



IC C09B

CC 46 (Dyes)

IT 6013-39-4, 1,5-Naphthalenedisulfonic acid, 3,3'-(*p*-phenylene)bis[imino(6-chloro-s-triazine-4,2-diyl)imino(2-acetamido-*p*-phenylene)azo]di- 6015-82-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[4-acetamido-4-[(4,8-disulfo-2-naphthyl)azo]anilino]-6-chloro-s-triazin-2-yl]amino]-6401-16-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[4-[(4-amino-3-sulfo-1-anthraquinonyl)amino]-2-sulfoanilino]-6-chloro-s-triazin-2-yl]amino]- (prep. of)

L47 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1964:425927 HCAPLUS

DOCUMENT NUMBER: 61:25927

ORIGINAL REFERENCE NO.: 61:4526a-f

TITLE: 4,4'-Bis(s-triazin-2-ylamino)-2,2'-disulfostilbenes
 INVENTOR(S): Crounse, Nathan N.; Delaney, John W.
 PATENT ASSIGNEE(S): Sterling Drug Inc.
 SOURCE: 34 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1353128	FR	19640221	FR	196202 16
GB 997175	GB			<--
US 3193548	US	1965		<--
PRIORITY APPLN. INFO.:	FR			196202 16
				<--

GI For diagram(s), see printed CA Issue.
 AB Amines of the general formula HO(CH₂CH₂O)_nCH₂CH₂OZNH₂, where n is 0, 1, 2, or 3 and Z is an alkylene group, or heterocyclic amines, such as morpholine and piperidine, are treated with a compd. of the general formula 4,2-R(MO₃S)C₆H₃CH:CHC₆H₃(SO₃M)R'-2,4, where M is an alkali metal and R and R' are dihalo-s-triazinylamino groups, to give compds., where the s-triazinyl ring contains groups of the general formula NHZOCH₂CH₂(OCH₂CH₂)_nOH, which can be used as optical brighteners. Thus, a soln. of 21.1 g. [4,2-H₂N(HO₃S)C₆H₃CH:]₂ in 151 ml. H₂O is added in 6-8 min. to a soln. of 21.5 g. cyanuric chloride in 117 ml. Me₂CO, 218 g. ice, and 163 g. H₂O, 12.3 g. 45% KOH is added, a mixt. of 8.25 g. K₂CO₃ and 21.8 g. ice is added, and the mixt. is kept at <10° to give a mixt. contg. the di-K salt (I) of 4,4'-bis(4,6-dichloro-s-triazin-2-ylamino)-2,2'-disulfostilbene. The mixt. contg. I is treated with 9.3 g. HOCH₂CH₂OCH₂CH₂O(CH₂)₃NH₂ at ≤19° for 1.5 hrs. at pH 7 to give a mixt. contg. II (n = 2, m = 3, R = R' = Cl, M = K) (III). The mixt. contg. III is treated at pH 7 at ≤24° with PhNH₂ to give a mixt. contg. II (n = 2, m = 3, R = Cl, R' = NHPh, M = K) (IV). The mixt. contg. IV is treated with 15.9 g. PhNH₂, heated at 55°, treated with 10 g. Na₂HPO₄ and 14 ml. 20% KOH to give pH 8.5 9.0, refluxed for 1.5 hrs., and made acid to Congo red to give 55.8 g. II (n = 2, m = 3, R = R' = NHPh, M = K). Similarly prep'd. are the following II (M = H) (n, m, R, and R' given): 1, 3, 3-EtOC₆H₄NH, 4-ClC₆H₄NH; 2, 3, PhNH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 2, PhNH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, HO(CH₂CH₂O)₂(CH₂)₃NH, PhNH; 2, 3, HO(CH₂CH₂O)₂(CH₂)₃NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, HOCH₂CH₂NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, EtO, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, morpholino, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, CH₂:CHCH₂NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, C5H₁₁NH, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, NH₂, HO(CH₂CH₂O)₂(CH₂)₃NH. V [R = R' = HO(CH₂CH₂O)₂CHMeCH₂NH, R'' = PhNH, M = HI is prep'd. similarly. Also prep'd. are the following intermediates of the formula II (n, m, M, R, and R' given): 1, 3, H, Cl, Cl; 1, 3, K, Cl, 4-ClC₆H₄NH; 2, 3, H, Br, Br; 2, 3, H, Br, PhNH;

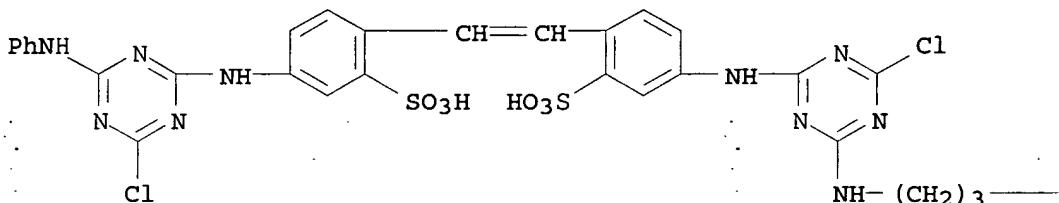
2, 3, K, Cl, HO(CH₂CH₂O)₂(CH₂)₃NH; 2, 3, H, OH, HO-(CH₂CH₂O)₂(CH₂)₃NH. Intermediates of formula V are also prepd. (M, R, R', and R'' given): K, Br, Br, Br; K, Cl, PhNH, Cl; K, PhNH, Cl, Cl; H, Cl, morpholino, Cl; H, Cl, CH₂:CHCH₂NH, Cl; H, Cl, C₅H₁₁N_{II}, Cl; II, Cl, N_{II}I, Cl.

IT 105404-13-5, 2,2'-Stilbenedisulfonic acid,
4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-(4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl)amino]-
(prepn. of)

RN 105404-13-5 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-(4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl)amino]- (7CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

← O-CH₂-CH₂-O-CH₂-CH₂-OH

IC C07D; D06L

CC 46 (Dyes)

IT 76-59-5, o-Toluenesulfonic acid, α,α-bis(6-bromo-5-hydroxycarvacryl)-α-hydroxy-, γ-sultone 102521-44-8,
2,2'-Stilbenedisulfonic acid, 4-[(4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl)amino]-4'-(4,6-dichloro-s-triazin-2-yl)amino]- 105404-13-5,
2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-(4-chloro-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl)amino]- 105861-83-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(allylamino)-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 105862-93-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-6-morpholino-s-triazin-2-yl]amino]- 105948-25-2, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-ethoxy-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 106385-37-9, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-6-(pentylamino)-s-triazin-2-yl]amino]- 106405-58-7, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-amino-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 106598-80-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4,6-bis[[3-[2-

(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-
 106630-25-5, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[2-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-
 106884-76-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-anilino-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-
 107442-87-5, 2,2'-Stilbenedisulfonic acid, 4-[[4-anilino-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-4'-[[4,6-bis[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]- 107713-13-3, 2,2'-Stilbenedisulfonic acid,
 4-[[4-(p-chloroanilino)-6-m-phenetidino-s-triazin-2-yl]amino]-4'-[[4-[[3-(2-hydroxyethoxy)propyl]amino]-6-m-phenetidino-s-triazin-2-yl]amino]- 107894-63-3, 2,2'-Stilbenedisulfonic acid,
 4-[[4-anilino-6-[[3-[2-(2-hydroxyethoxy)ethoxy]propyl]amino]-s-triazin-2-yl]amino]-4'-[(4,6-dianilino-s-triazin-2-yl)-amino]-
 856646-19-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-[[3-[2-(2-hydroxyethoxy)ethoxy]-propyl]amino]-6-[(2-hydroxyethyl)amino]-s-triazin-2-yl]amino]-
 (prep. of)

L47 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:475801 HCAPLUS

DOCUMENT NUMBER: 59:75801

ORIGINAL REFERENCE NO.: 59:14144g-h,14145a-d

TITLE: 3-Phenyl-7-(1-pyrazolyl)coumarins

PATENT ASSIGNEE(S): J. R. Geigy A.-G.

SOURCE: 37 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 1320597		19630308	FR 1962-895713	196204 26

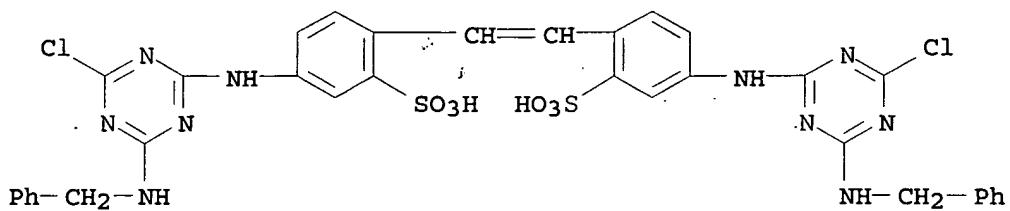
PRIORITY APPLN. INFO.:	CH	196104 27
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GI For diagram(s), see printed CA Issue.

AB Compds. of the formula I, in which R1 and R2 = H, Me or Ph and R3 = Ph or substituted Ph, were prep'd. by various methods. From 3-substituted 7-aminocoumarins the following derivs were prep'd. (substituent and m.p. given): Ph, 174-5° (II); m-tolyl(HCl salt), 260° (decompn.); p-tolyl, 215° (decompn.); p-ClC₆H₄, 220° (decompn.). To a stirred soln. of Ac₂CH₂ 20 in AcOH 250 was added II 25.2 parts. The mixt. was heated for 1 hr. at 100°, cooled, and the solid filtered, giving I (R1 = R2 = Me, R3 = Ph), fine needles, (PhMe) m. 210°. (MeO)₂CHCH₃Ac (IIA) 90 was added at 10° to a soln. of m-H₂NNHC₆H₄SO₃H 104 and NaOH 22 in H₂O 700 parts. The soln. was stirred for 14 hrs. at 20-5° and then for 3 hrs. at 90-100°, and treated with 20% NaCl soln. to ppt. the Na salt (III) of m-(3-methyl-1-pyra-zolyl)benzenesulfonic acid. III 418, NaOH 440, and H₂O 1000 parts were heated in an autoclave for 6 hrs. to 260-70°, the mixt. dissolved in 1200 parts H₂O, heated with C, cooled, clarified, and treated with AcOH to ppt. 1-(m-hydroxyphenyl)-3-methyl-pyrazole (IV), m. 104°. CHCl₃

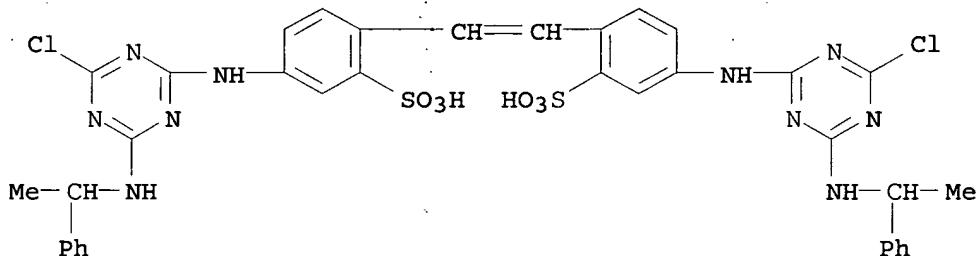
115 was added to a soln. of IV 105 and NaOH 173 in EtOH 325 and H₂O 360 parts, the mixt. stirred for 1 hr. at 72-5° and 14 hrs. at room temp., the solvents distd. at reduced pressure, the residue dissolved in 1000 parts H₂O, and the filtrate soln. acidified. The resinous ppt. was sepd., mixed with 1000 parts Et₂O, clarified, and the filtrate evapd. leaving 2-hydroxy-4-(3-methyl-1-pyrazolyl)benzaldehyde (V), an oil. V 100 in EtOH 250 was treated with PhCH₂CN 52 and piperidine 10 parts, the mixt. heated for 1 hr. at 75-80°, 10 parts piperidine added, the mixt. refluxed for 20 hrs., poured into 3000 parts 10% AcOH, and refluxed for 4 hrs. The pptd. oil, which solidified on cooling, was sepd. and washed with EtOH to yield I (R₁ = Me, R₂ = H, R₃ = Ph) (VI), m. 216-17° (C₆H₆-ligroine); λ_{max} 346 m μ , log ϵ 4.54. VI was also prep'd. from II and IIA. A monosulfonic acid of VI was also made by sulfonation at room temp. VI₃₀ was dissolved at 0-5° in HSO₃Cl 300 parts, the mixt. kept for 14 hrs. at room temp., poured on ice, and the yellowish ppt. washed with H₂O to give I (R₁ = Me, R₂ = H, R₃ = m-ClSO₂C₆H₄) (VII). VII 10 suspended in PhCl 150 was treated with Me₂N(CH₂)₃NH₂ 6 parts, the mixt. heated at 100° for 0.5 hr., refluxed for a short period, filtered hot, and cooled to give cryst. I [R₁ = Me, R₂ = H, R₃ = m-(Me₂NCH₂-CH₂CH₂NHSO₂C₆H₄)], m. 210° (PhCl). Similarly, other I were prep'd. (R₁, R₂, R₃, m.p., λ_{max} . in m μ , and log ϵ given): Me, Me, m-tolyl, 179-80°, -, -; Me, Me, p-tolyl, 205°, -, -; Me, Me, p-ClC₆H₄, 237-8°, -, -; H, Me, Ph, 188°, 335, 4.44; H, Me, m-tolyl, 153°, 335, 4.43; Me, H, p-tolyl, 240°, -, -; Me, H, p-ClC₆H₄, 244°, -, -; Me, Ph, Ph, 204°, 338, 4.42; Ph, Ph, Ph, 230°, 344, 4.50; H, Ph, Ph, 235°, -, -; H, H, Ph, 229°, -, -. Solns. of these compds. in org. solvents show bluish fluorescence. The compds. are optical brighteners. Numerous procedures are given for incorporating them into cellulose acetate and various synthetic fibers.

- IT 22240-94-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt 22241-08-3, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 22546-53-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 105818-79-9, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(α -(hydroxymethyl)-benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt
(prep'n. of)
- RN 22240-94-4 HCPLUS
- CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI) (CA INDEX NAME)



●2 Na

RN 22241-08-3 HCPLUS

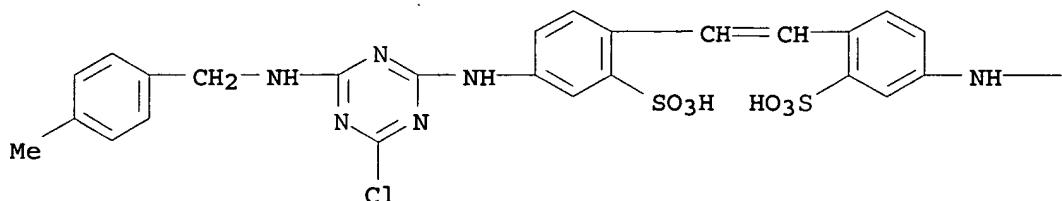
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
(CA INDEX NAME)

●2 Na

RN 22546-53-8 HCPLUS

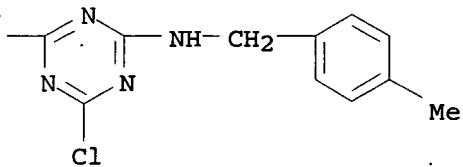
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
(CA INDEX NAME)

PAGE 1-A



●2 Na

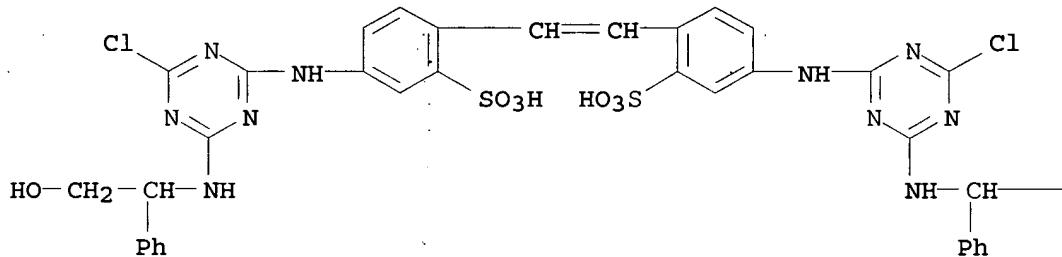
PAGE 1-B



RN 105818-79-9 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -hydroxymethyl)benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt
(7CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

—CH₂—OH

CC 46 (Dyes)

IT 22240-94-4, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium
salt 22241-08-3, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-
yl]amino]-, disodium salt 22546-53-8, 2,2'-
Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p -
methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt
105818-79-9, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[(α -hydroxymethyl)-benzyl]amino]-s-
triazin-2-yl]amino]-, disodium salt
(prep. of)

L47 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1963:475800 HCAPLUS
 DOCUMENT NUMBER: 59:75800
 ORIGINAL REFERENCE NO.: 59:14144e-g
 TITLE: Bis(triazinylamino)stilbenes
 PATENT ASSIGNEE(S): J. R. Geigy A.-G.
 SOURCE: 14 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 620472		19630121	BE	
CH 394222			CH	<--
FR 1329354			FR	
GB 969402			GB	
PRIORITY APPLN. INFO.:			CH	
				196107
				21
				<--

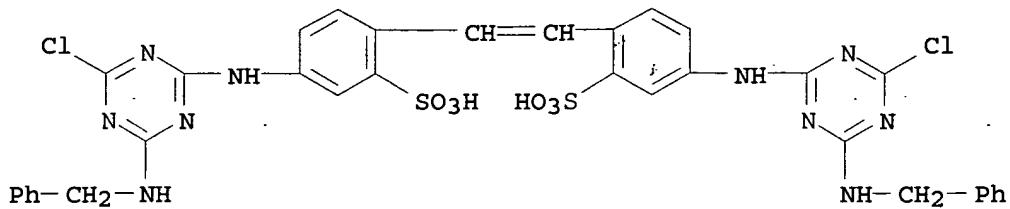
GI For diagram(s), see printed CA Issue.

AB Compds. of the general structure I are brighteners for polyamide fibers. To a stirred suspension of cyanuric chloride (II) obtained by stirring a soln. of 37 parts II in 350 vols. Me₂CO into iced H₂O 900 parts, was added at 0° in 1 hr. a soln. of [4,2H₂N(NaO₃S)C₆H₃CH:]₂ 41.4 and Na₂CO₃ 11 in H₂O 600 parts. To the yellow suspension formed, a soln. of 22.5 parts PhCH₂NH₂ in 50 vols. Me₂CO was added dropwise in 3-5 hrs. at pH 7.5-8 and 25-30°. The mixt. was then stirred 3 hrs. at 35°, the pH being kept at 7.5-8 by addn. of aq. Na₂CO₃ soln., cooled, filtered, and dried under reduced pressure at 70° to give I (R = H), a yellow powder, sol. in H₂O, which whitens nylon front an acid bath. Similarly prep'd. were I (R = Me) and I (R = CH₂-OH).

IT 22240-94-4, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt 22241-08-3, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-chloro-6-[(α-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 22546-53-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 105818-79-9, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[[4-chloro-6-[(α-(hydroxymethyl)-benzyl)amino]-s-triazin-2-yl]amino]-, disodium salt
 (prep'n. of)

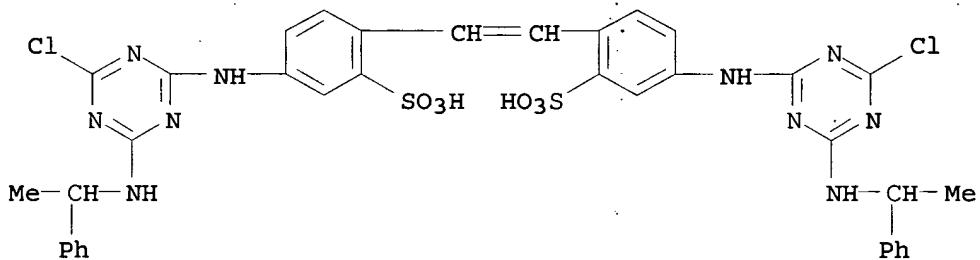
RN 22240-94-4 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI) (CA INDEX NAME)



●2 Na

RN 22241-08-3 HCPLUS

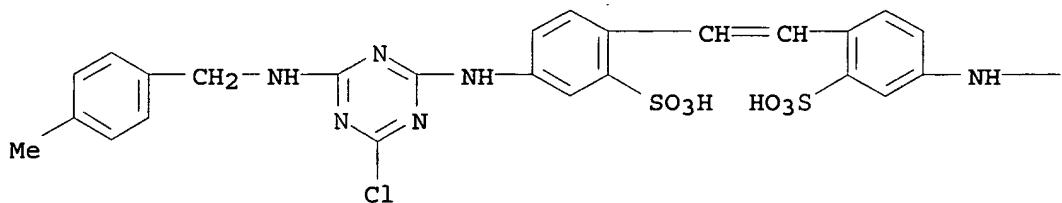
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
(CA INDEX NAME)

●2 Na

RN 22546-53-8 HCPLUS

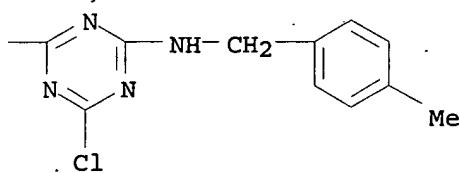
CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt (7CI, 8CI)
(CA INDEX NAME)

PAGE 1-A



●2 Na

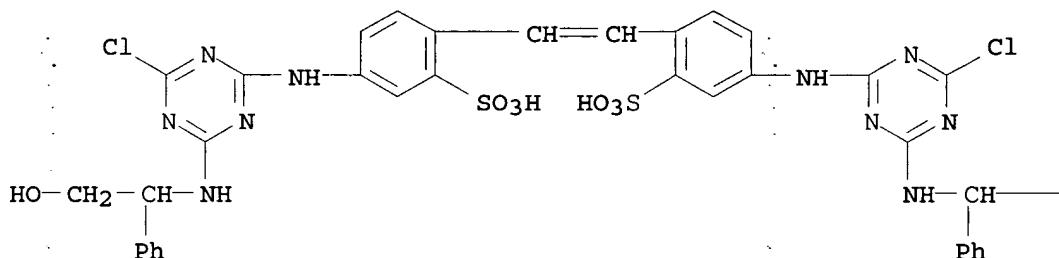
PAGE 1-B



RN 105818-79-9 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -hydroxymethyl)benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt
(7CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CH₂ — OH

CC 46 (Dyes)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis[[[aryl amino]chlorotriazinyl]amino]stilbenedisulfonic acid derivs. as, for nylon)

IT Nylon

(optical brighteners for)

IT 22240-94-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-(benzylamino)-6-chloro-s-triazin-2-yl]amino]-, disodium salt 22241-08-3, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(α -methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt 22546-53-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[[4-chloro-6-[(p-

methylbenzyl)amino]-s-triazin-2-yl]amino]-, disodium salt
105818-79-9, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[[4-chloro-6-[[α -(hydroxymethyl)-benzyl]amino]-s-triazin-2-yl]amino]-, disodium salt
(prepn. of)

L47 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1962:449371 HCAPLUS

DOCUMENT NUMBER: 57:49371

ORIGINAL REFERENCE NO.: 57:9864c-d

TITLE: Stilbene derivatives

INVENTOR(S): Hayakawa, Ginhichiro; Obizu, Takeo

PATENT ASSIGNEE(S): Nisso Chemical Industries Co., Ltd.

SOURCE: 1 p.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 36018531		19611006	JP	196003 15

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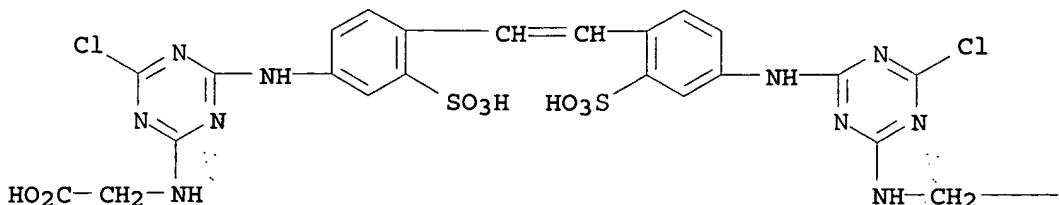
AB A soln. of 3.7 g. cyanuric chloride in 20 cc. Me₂CO is poured into 100 cc. ice H₂O, an aq. soln. contg. 3.7 g. 4,4'-diaminostilbene-2,2'-disulfonic acid is added, the mixt. kept at 0-5° for 3 hrs. (soln. kept neutral), then 3.0 g. glycine and an aq. soln. contg. 2.2 g. Na₂CO₃ added, stirred at 40-5° for 6 hrs., neutralized, 20 g. NaCl added, filtered, the resulting mass washed with NaCl soln., and dried at 40-50° in vacuo to give di-Na 4,4'-bis(2-carboxymethylamino-4-chloro-1,3,5-triazin-6-ylamino)stilbene-2,2'-disulfonate, pale yellow powder, useful as an optical bleaching agent.

IT 101174-12-3, Glycine, N,N'-[vinylenebis[(3-sulfo-p-phenylene)-imino(6-chloro-s-triazine-4,2-diyl)]di-, disodium salt (prepn. of)

RN 101174-12-3 HCAPLUS

CN Glycine, N,N'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino(6-chloro-1,3,5-triazine-4,2-diyl)]bis-, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Na

PAGE 1-B

— CO₂H

CC 32 (Heterocyclic Compounds-More than One Hetero Atom)
 IT Bleaching agents
 (fluorescent or optical, stibene derivs. as)
 IT 101174-12-3, Glycine, N,N'-(vinylenebis[(3-sulfo-p-phenylene)-imino(6-chloro-s-triazine-4,2-diyl)])di-, disodium salt (prepn. of)

L47 ANSWER 27 OF 29 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1957:21987 HCPLUS
 DOCUMENT NUMBER: 51:21987
 ORIGINAL REFERENCE NO.: 51:44461,4447a-d
 TITLE: 4,4'-Diaminostilbenes
 INVENTOR(S): Gold, Heinrich; Petersen, Siegfried
 PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

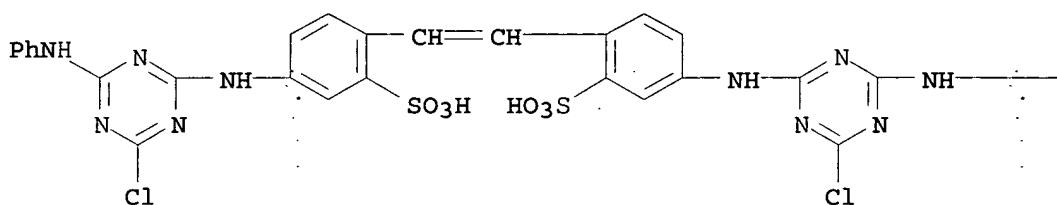
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2764583		19560925	US	

AB In addn. to the compds. prep'd. in Brit. 695,609 (C.A. 48, 10773h), similar compds. were prep'd. as follows. To di-Na 4-(4-anilino-6-chloro-s-triazin-2-ylamino)-4'-(4,6-dichloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonate (I), prep'd. from cyanuric chloride and 4,4'-diaminostilbene-2,2'-disulfonic acid, was added 2,5-(4-H₂NC₆H₄CONH) (AcNH)C₆H₃SO₃Na 50 in water 200, the mixt. heated to 60°, kept neutral to weakly acid by adding 10% aq. Na₂CO₃ 75, and the resultant ppt. filtered off and dried to give the mono-4-[2,4-HO₃S(AcNH)C₆H₃]NHCO-C₆H₄NH analog (C₄1H₂9Cl₂N₁2Na₃O₁S₃) of I (II) 160 parts, weakly yellow powder. II 150 parts suspended in water 2000 parts, treated with HOCH₂CH₂NH₂ (III 30 parts at 95-100° over 2 hrs., NaCl 600 parts added at 95-100°, and the ppt. formed sep'd. by filtration at 50°, and dried gave the mono-HOCH₂CH₂NH analog (C₄3H₃5ClN₁3-Na₃O₁S₃) of II 164 parts, pale yellow powder. Replacing III with 33% aq. MeNH₂ 250 parts or 39.5% aq. EtNH₂ 230 parts in the above reaction gave the corresponding products; 168 parts and 152 parts, resp., pale yellow powders. Di-Na 4-(6-chloro-4-toluidino-s-triazin-2-ylamino)-4'-(4,6-dichloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonate (IV) treated with 2,5-(4-H₂NC₆H₄CONH) (EtNH)C₆H₃SO₃Na and the resultant intermediate compd. treated with aq. Na₂CO₃ gave the mono-4-[2,4-HO₃S(EtNH)C₆H₃]NHCO-C₆H₄NH analog (C₄2H₃1Cl₂N₁2Na₃O₁S₃) of IV, pale grey powder. I and 2,5-(4-H₂NC₆H₄CONH) (PhNH)C₆H₃SO₃Na treated as above and the intermediate compd. treated with III gave the

mono-HOCH₂CH₂NH mono-4-[2,4-HO₃S-(PhNH) C₆H₃]NHCOC₆H₄NH analog (C₄7H₃7ClN₁3Na₃O₁1S₃) of I, grayish yellow powder. Replacing III in the above reaction with 33% aq. MeNH₂ or 39.5% aq. EtNH₂ gave the corresponding products, grayish yellow powders. The compds. are bleaching agents.

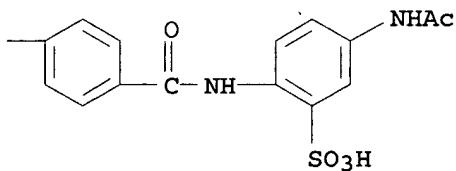
- IT 108696-33-9, 2,2'-Stilbenedisulfonic acid, 4-{[4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-chloro-s-triazin-2-yl]amino}-4'-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-, trisodium salt
(prepns. of)
- RN 108696-33-9 HCAPLUS
- CN 2,2'-Stilbenedisulfonic acid, 4-[[4- [p- [(4-acetamido-2-sulfophenyl)carbamoyl]anilino]-6-chloro-s-triazin-2-yl]amino]-4'-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-, trisodium salt (6CI) (CA INDEX NAME)

PAGE 1-A



●3 Na

PAGE 1-B



CC 10 (Organic Chemistry)

IT Bleaching agents

(fluorescent or optical, 4,4'-diamino-2,2'-stilbenedisulfonic acid derivs.)

- IT 108017-34-1, 2,2'-Stilbenedisulfonic acid, 4-{[4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-methylamino-s-triazin-2-yl]amino}-4'-(4-anilino-6-methylamino-s-triazin-2-yl)amino]-, trisodium salt
108039-36-7, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-ethylamino-s-triazin-2-yl)amino]-4'-{[4-{p-[(4-anilino-2-sulfophenyl)carbamoyl]anilino}-6-ethylamino-s-triazin-2-yl]amino}-, trisodium salt 108625-64-5, 2,2'-Stilbenedisulfonic acid, 4-{[4-amino-6-{p-[(4-amino-2-sulfophenyl)carbamoyl]anilino}-s-triazin-2-yl]amino}-4'-[(4-amino-6-anilino-s-triazin-2-yl)amino]-, trisodium salt 108627-31-2, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-methylamino-s-triazin-2-yl)amino]-4'-{[4-{p-[(4-anilino-2-sulfophenyl)carbamoyl]anilino}-6-methylamino-s-triazin-2-

yl}amino]-, trisodium salt 108696-31-7, 2,2'-Stilbenedisulfonic acid, 4-{4-{p-[(5-ethylamino-2-sulfophenyl)carbamoyl]anilino}-6-hydroxy-s-triazin-2-yl}amino}-4'-{[(4-hydroxy-6-p-toluidino-s-triazin-2-yl)amino]-, trisodium salt 108696-33-9, 2,2'-Stilbenedisulfonic acid, 4-{4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-chloro-s-triazin-2-yl}amino}-4'-{[(4-anilino-6-chloro-s-triazin-2-yl)amino]-, trisodium salt 109129-42-2, 2,2'-Stilbenedisulfonic acid, 4-{4-{p-[(4-acetamido-2-sulfophenyl)carbamoyl]anilino}-6-ethylamino-s-triazin-2-yl}amino}-4'-{[(4-anilino-6-ethylamino-s-triazin-2-yl)amino]-, trisodium salt 121815-63-2, 2,2'-Stilbenedisulfonic acid, 4-[(4-chloro-6-p-toluidino-s-triazin-2-yl)amino]-4'-{[(4,6-dichloro-s-triazin-2-yl)amino]-, disodium salt 122388-18-5, 2,2'-Stilbenedisulfonic acid, 4-[(4-anilino-6-chloro-s-triazin-2-yl)amino]-4'-{[(4,6-dichloro-s-triazin-2-yl)amino]-, disodium salt
(prepn. of)

L47 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1955:75833 HCAPLUS

DOCUMENT NUMBER: 49:75833

ORIGINAL REFERENCE NO.: 49:14355a-c

TITLE: Cleaning compositions for fibers and textiles

PATENT ASSIGNEE(S): C I B A Ltd.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

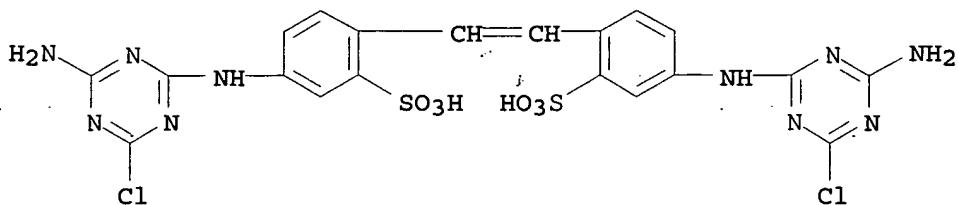
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
CH 287194		19530316	CH	<--

AB New cleansing agents are described for washing and bleaching colored, uncolored, or coated N-contg. synthetic and natural fibers. These agents are derivs. of 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid. Water-sol. salts of such acids can also be used. Such compds. have unusual affinity for vegetable and animal fibers, causing them to fluoresce in ultraviolet light, and thus to increase the white appearance of uncolored materials and the brightness of colored materials. Thus, 100 parts of a liquid soap contg. 50-60% fatty acid were mixed and allowed to cool with 0.05-0.5 parts di-Na salt of 4,4'-bis(4-chloro-6-ethylamino-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid. Textiles washed with the resulting compd. had a much cleaner and fresher appearance than those washed with the original soap alone.

IT 56682-91-8, 2,2'-Stilbenedisulfonic acid,
4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-
(derivs., detergents)

RN 56682-91-8 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[(4-amino-6-chloro-1,3,5-triazin-2-yl)amino]- (9CI) (CA INDEX NAME)



INCL 24A

CC 27 (Fats, Fatty Oils, Waxes, and Detergents)

IT Cleaning compositions

(4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT Rayon and other artificial fibers

(bleaching and cleaning compns. for,
4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT Fibers

(cleaning compns. for)

IT Bleaching agents

(fluorescent or optical, 4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-2,2'-stilbenedisulfonic acid derivs.)

IT 56682-91-8, 2,2'-Stilbenedisulfonic acid,
4,4'-bis(4-amino-6-chloro-s-triazin-2-ylamino)-
(derivs., detergents)

L47 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1950:50706 HCAPLUS

DOCUMENT NUMBER: 44:50706

ORIGINAL REFERENCE NO.: 44:9692g-i

TITLE: Stilbene derivatives for whitening
textiles

INVENTOR(S): Adams, Dennis A. W.; Wilson, Robert H.

PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 623849		19490524	GB	<--

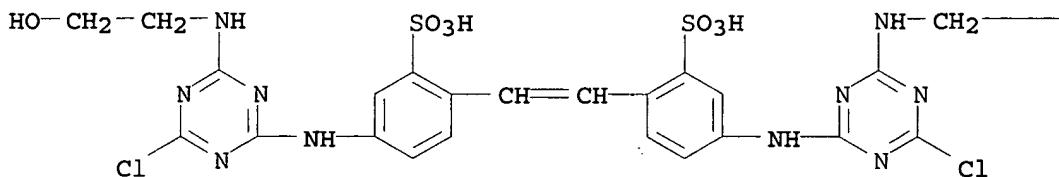
AB An improved optical bleach is prep'd. by stirring 4,4'-diamino-2,2'-stilbenedisulfonic acid 37 with H₂O 240 parts and 0.2 mols. NaOH, then adding the soln. during 30 min. to a suspension of cyanuric chloride 36.8 and acetone 92 in H₂O 1600 parts. The mixt. is stirred at 20-5° for 2 hrs. and then neutralized with 10% NaOH 80 parts. HOCH₂CH₂NH₂ 30 parts is added, and the mixt. heated at 50° for 1 hr. The pale yellow Na salt of 4,4'-bis[6-chloro-4-(2-hydroxyethylamino)-1,3,5-triazen-2-yl-amino]-2,2'-stilbenedisulfonic acid is ppt'd. with 400 parts NaCl and dried at 60°.

IT 194367-01-6, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4-chloro-6-(2-hydroxyethylamino)-s-triazin-2-ylamino]-
(prep'n. of)

RN 194367-01-6 HCAPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-chloro-6-[(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— CH₂— OH

CC 25 (Dyes and Textiles Chemistry)

IT Bleaching agents

(fluorescent or optical, stilbenedisulfonic acid derivs.)

IT 588-59-0, Stilbene

(derivs., for whitening textiles)

IT 194367-01-6, 2,2'-Stilbenedisulfonic acid,
4,4'-bis[4-chloro-6-(2-hydroxyethylamino)-s-triazin-2-ylamino]-
(prepns. of)

=> d 152 ibib abs hitstr hitind 1-2

L52 ANSWER 1 OF 2 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:171898 HCPLUS

DOCUMENT NUMBER: 124:204938

TITLE: Anionic acid azo direct dyes, their preparation,
their mixtures, and their use

INVENTOR(S): Lauk, Urs

PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.

SOURCE: Eur. Pat. Appl., 71 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 693538	A2	19960124	EP 1995-810387	199506 12
EP 693538	A3	19960605		
EP 693538	B1	20010822		
R: BE, CH, DE, ES, FR, GB, GR, IT, LI, PT				
US 5631352	A	19970520	US 1995-460174	199506 02

ES 2161847	T3	20011216	ES 1995-810387	199506 12
PT 693538	T	20020130	PT 1995-810387	199506 12
JP 08003469	A2	19960109	JP 1995-146285	199506 13
CN 1133323	A	19961016	CN 1995-107363	199506 19
CN 1066178 BR 9502861	B A	20010523 19960604	BR 1995-2861	199506 20
GR 3036651	T3	20011231	GR 2001-401509	200109 18
PRIORITY APPLN. INFO.:			CH 1994-1952	A 199406 20

OTHER SOURCE(S) : MARPAT 124:204938

AB Mixts. of ≥1 azo dye contg. 1 or 2 aminotriazine groups with ≥ 1 azo dye contg. 2 aminotriazine groups are direct dyes for cellulosics . They are high-temp.-stable and are esp. suited for 1-bath dyeing of polyester/cotton with incorporation of a polyester disperse dye under polyester dyeing conditions. Thus, 1 mol cyanuric chloride was condensed with 2 mol 7-amino-4-hydroxy-3-(4-methoxy-2-sulfophenylazo)-2-naphthalenesulfonic acid and then with 1 mol 1,3-diaminopropane to provide an aminotriazine disazo dye which dyed cotton in fast red shades. The dye could also be combined with another azo dye for application.

IT 174571-99-4

RL: TEM (Technical or engineered material use); USES (Uses)
(anionic acid azo direct dye mixts. for dyeing of cellulosics)

RN 174571-99-4 HCPLUS

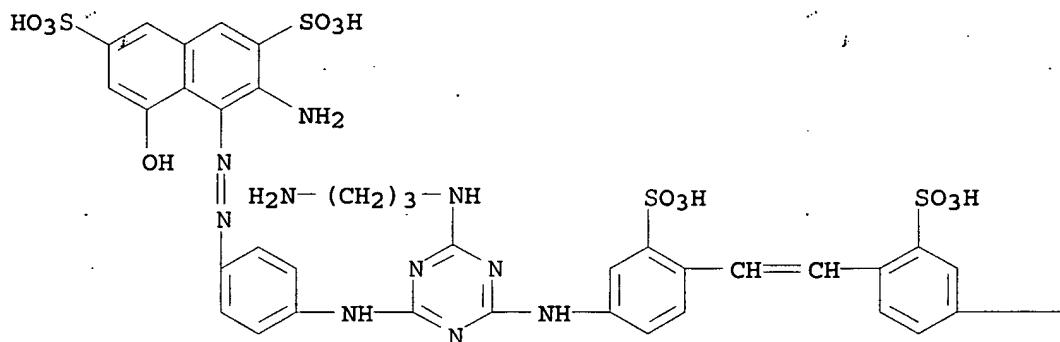
CN 2,7-Naphthalenedisulfonic acid, 4,4',4'',4'''-[1,3-propanediylbis[imino-1,3,5-triazine-6,2,4-triylbis(imino-4,1-phenyleneazo)]]]tetrakis[3-amino-5-hydroxy-, mixt. with 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-[(3-aminopropyl)amino]-1,3,5-triazine-4,2-diyl]imino-4,1-phenyleneazo]]bis[3-amino-5-hydroxy-2,7-naphthalenedisulfonic acid] (9CI) (CA INDEX NAME)

CM 1

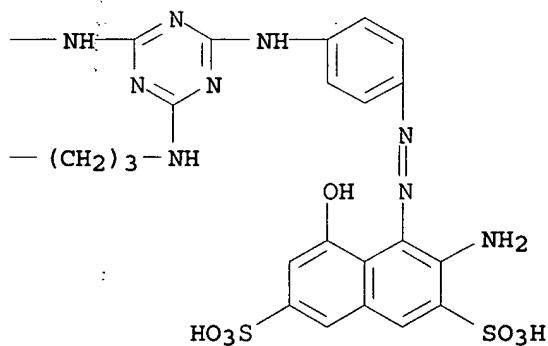
CRN 174571-98-3

CMF C58 H56 N20 O20 S6

PAGE 1-A

 $\text{H}_2\text{N}-$

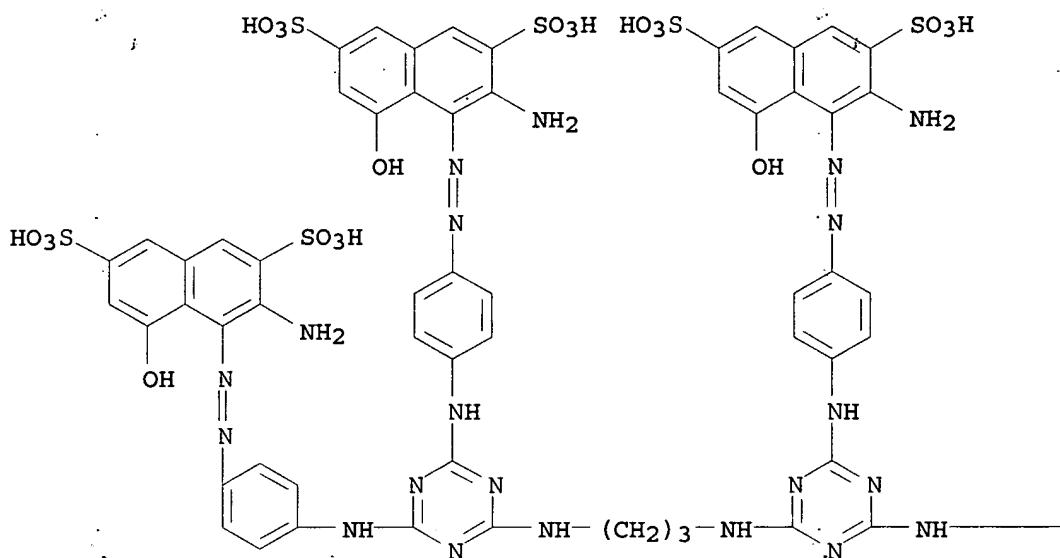
PAGE 1-B



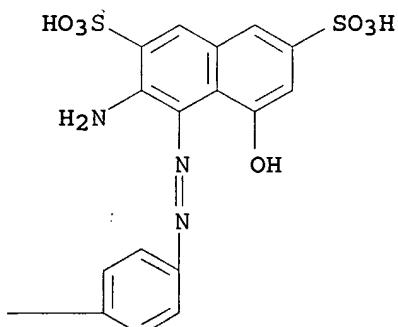
CM 2

CRN 174571-96-1
 CMF C73 H60 N24 O28 S8

PAGE 1-A



PAGE 1-B



IC ICM C09B067-22

ICS C09B043-16

CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 40

IT 174571-72-3 174571-74-5 174571-76-7 174571-79-0 174571-82-5

174571-85-8 174571-88-1 174571-91-6 174571-94-9 174571-97-2

174571-99-4RL: TEM (Technical or engineered material use); USES (Uses)
(anionic acid azo direct dye mixts. for dyeing of cellulosics)

L52 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:10317 HCAPLUS
 DOCUMENT NUMBER: 120:10317
 TITLE: Dye mixtures and their utilization
 INVENTOR(S): Schaulin, Rudolf; Lauk, Urs
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 548014	A1	19930623	EP 1992-810966	199212 08
EP 548014 R: BE, CH, DE, FR, GB, IT, LI US 5324330	B1 A	19970312 19940628	US 1992-988539	199212 10
JP 05279586	A2	19931026	JP 1992-353866	199212 16
PRIORITY APPLN. INFO.:			CH 1991-3720	A 199112 17

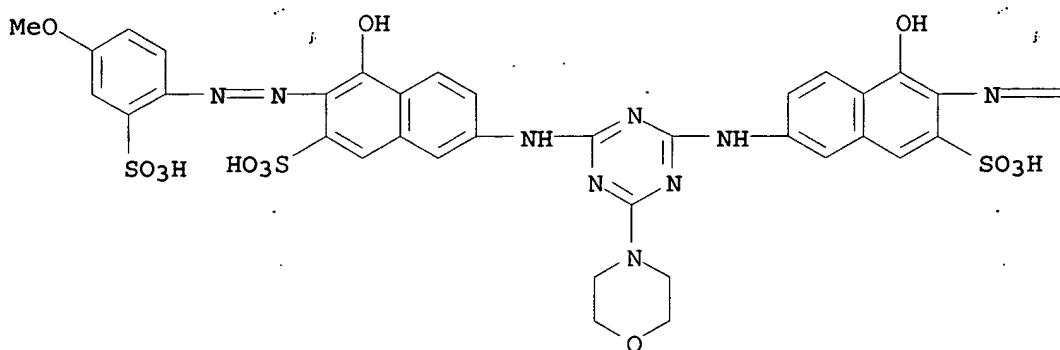
OTHER SOURCE(S): MARPAT 120:10317
 AB Mixts. of a naphthol disazo dye (A) contg. a stilbene and 2 triazine groups and a naphthol disazo dye (B) contg. 1 triazine group are obtained for use in dyeing and printing of cotton and polyester-cellulosics. In an example, a 1:1.3 A-B mixt. of dyes contg. morpholinotriazine groups was used to dye cotton in a fast red shade.
 IT 151802-27-6
 RL: USES (Uses)
 (in dyeing of cotton)
 RN 151802-27-6 HCAPLUS
 CN 2,7-Naphthalenedisulfonic acid, 4,4'-(1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino]-6-(4-morpholinyl)-1,3,5-triazine-4,2-diyl]imino]bis[5-hydroxy-6-(phenylazo)-, mixt. with 7,7'-[[6-(4-morpholinyl)-1,3,5-triazine-2,4-diyl]diimino]bis[4-hydroxy-3-[(4-methoxy-2-sulfophenyl)azo]-2-naphthalenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

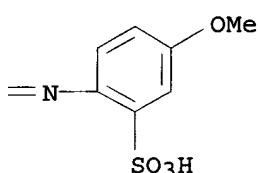
CRN 151802-26-5

CMF C41 H36 N10 O17 S4

PAGE 1-A



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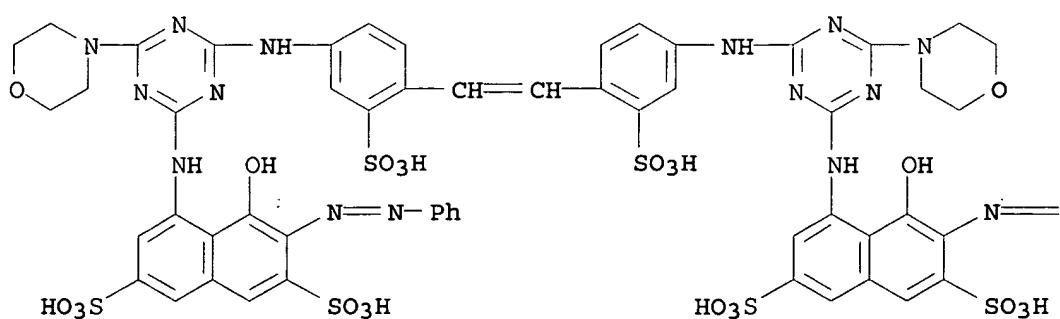


CM 2

CRN 151802-25-4

CMF C60 H52 N16 O22 S6

PAGE 1-A



PAGE 1-B

== N- Ph

IT 151802-28-7

RL: USES (Uses)

(in dyeing of polyester-cotton blends)

RN 151802-28-7 HCAPLUS

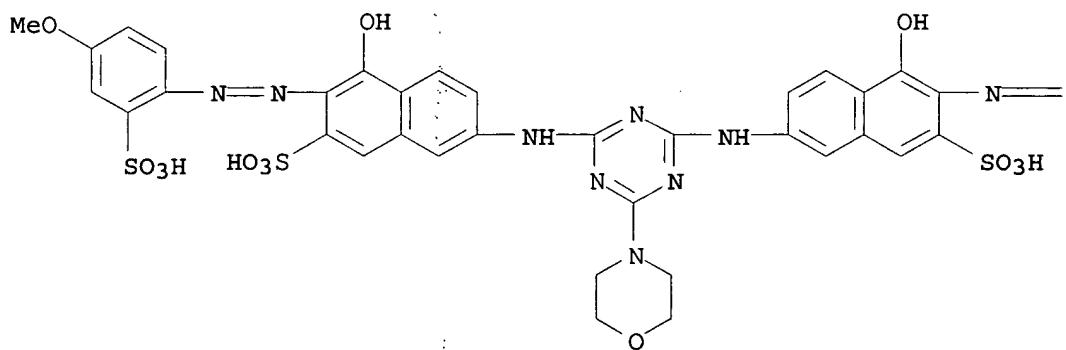
CN 2,7-Naphthalenedisulfonic acid, 4,4'-[1,2-ethenediylbis[(3-sulfo-4,1-phenylene)imino[6-(4-morpholinyl)-1,3,5-triazine-4,2-diyl]imino]]bis[5-hydroxy-6-(phenylazo)-, mixt. with 2-[[4-[bis[2-(acetyloxy)ethyl]amino]phenyl]azo]-5-nitrobenzonitrile and 7,7'-[[6-(4-morpholinyl)-1,3,5-triazine-2,4-diyl]diimino]bis[4-hydroxy-3-[(4-methoxy-2-sulfophenyl)azo]-2-naphthalenesulfonic acid] (9CI) (CA INDEX NAME)

CM 1

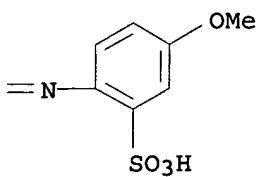
CRN 151802-26-5

CMF C41 H36 N10 O17 S4

PAGE 1-A

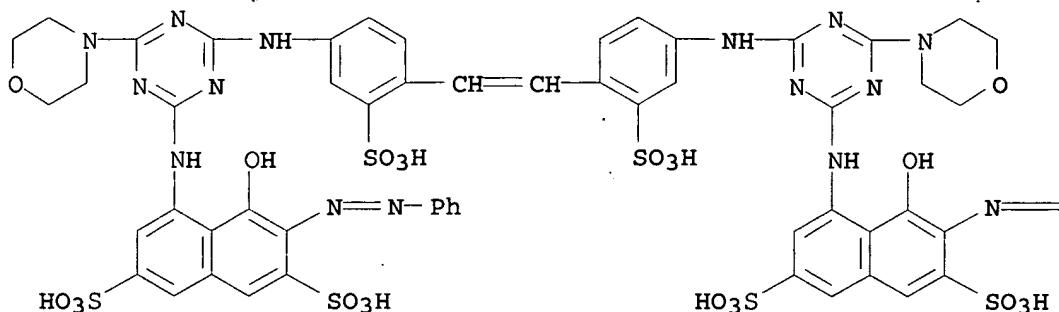


PAGE 1-B



CM 2

CRN 151802-25-4
 CMF C60 H52 N16 O22 S6



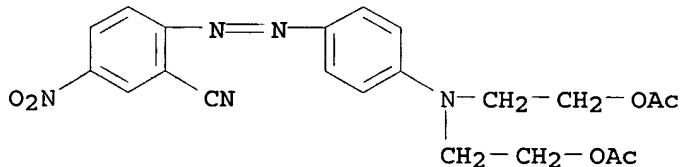
PAGE 1-A

PAGE 1-B

$\equiv \text{N- Ph}$

CM 3

CRN 30124-94-8
 CMF C21 H21 N5 O6



IC ICM C09B067-22
 CC 40-6 (Textiles and Fibers)
 IT 151802-27-6
 RL: USES (Uses)
 (in dyeing of cotton)
 IT 151802-28-7
 RL: USES (Uses)
 (in dyeing of polyester-cotton blends)

=> d 161 ibib abs hitstr hitind 1-5

L61 ANSWER 1 OF 5 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1993:650300 HCPLUS

DOCUMENT NUMBER: 119:250300
 TITLE: Synthesis and spectral characterization of a rotaxane of β -cyclodextrin threaded by a 4,4'-diaminostilbene
 AUTHOR(S): Kunitake, Masashi; Kotoo, Kengo; Manabe, Osamu; Muramatsu, Tsuyoshi; Nakashima, Naotoshi
 CORPORATE SOURCE: Fac. Eng., Nagasaki Univ., Nagasaki, 852, Japan
 SOURCE: Chemistry Letters (1993), (6), 1033-6
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A rotaxane, in which a stilbene moiety threads the cavity of β -cyclodextrin (β -CyD), has been synthesized. The rotaxane structure has been proved by UV-visible and induced CD spectra.

IT 151168-22-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prep. and condensation of, with benzylamine)

RN 151168-22-8 HCPLUS

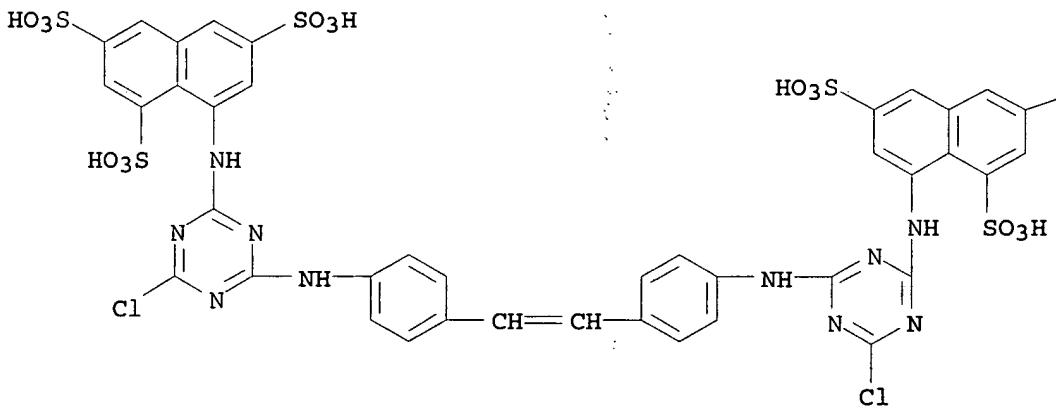
CN β -Cyclodextrin, compd. with 8,8'-(1,2-ethenediyilbis[4,1-phenyleneimino(6-chloro-1,3,5-triazine-4,2-diyl)imino]bis[1,3,6-naphthalenetrisulfonic acid] hexasodium salt (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 150966-91-9

CMF C40 H28 Cl2 N10 O18 S6 . 6 Na

PAGE 1-A



● 6 Na

PAGE 1-B

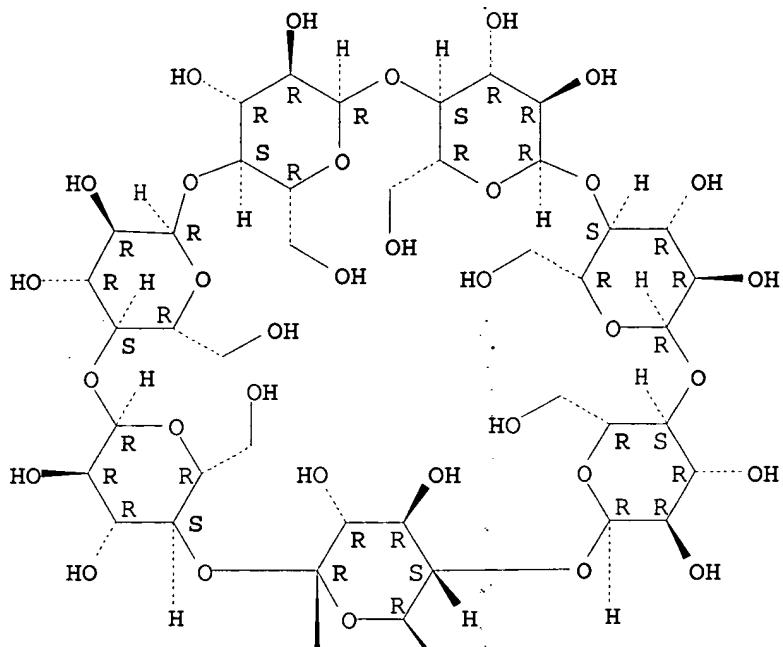
— SO₃H

CM 2

CRN 7585-39-9
CMF C42 H70 O35

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



CC 33-4 (Carbohydrates)
 Section cross-reference(s): 22
 IT 150966-91-9P 151168-22-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and condensation of, with benzylamine)

L61 ANSWER 2 OF 5 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:444027 HCPLUS
 DOCUMENT NUMBER: 83:44027
 TITLE: s-Triazine ring-containing polycarbonates with functional groups
 INVENTOR(S): Neurav, Dieter; Vernaleken, Hugo; Rudolph, Hans
 PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 53 pp.
 CODEN: GWXXBX

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2346935	A1	19750403	DE 1973-2346935	197309 18
DE 2346935	C2	19820121		
CA 1046693	A1	19790116	CA 1974-207743	197408 26
BE 819942	A1	19750317	BE 1974-148550	197409 16
US 3957728	A	19760518	US 1974-506158	197409 16
IT 1019276	A	19771110	IT 1974-53022	197409 16
GB 1460205	A	19761231	GB 1974-40446	197409 17
NL 7412358	A	19750320	NL 1974-12358	197409 18
FR 2243960	A1	19750411	FR 1974-31556	197409 18
FR 2243960	B1	19790216		
JP 51010895	A2	19760128	JP 1974-106814	197409 18
JP 57061045	B4	19821222		
JP 56121636	A2	19810924	JP 1980-138869	198010 06
JP 58023825	A2	19830212	JP 1982-36713	198203 10
JP 60025049	B4	19850615		
PRIORITY APPLN. INFO.:				
		US 1973-397502	A2	197309 14
		DE 1973-2346935	A	197309 18

GI For diagram(s), see printed CA Issue.

AB Polycarbonates useful as adsorbents are prep'd. from functionally substituted s-triazine deriv. diols. Thus, stirring bisphenol A 21.7, triazine I 1.27, NaOH 7.6, and NaBH4 0.2 g with 60 ml PhCl and 180 ml H2O 4 hr at 90°, cooling, adding 0.43 g p-Me3CC6H4OH chain-terminator, 120 ml CH2Cl2, and 10% HCl to pH 11-12, passing in 13.4 g COCl2 over 30 min with intensive stirring at 24-7°

with addn. of 1 N NaOH to maintain pH 11-12, adding 5.5 ml 1% Et₃N, and stirring 10 min gives 21.4 g polycarbonate [55636-33-4], N content 1.04%, relative viscosity (CH₂Cl₂, 25°) 1.254.

Heating a PhCl soln. of polymer with TDI gives an insol., crosslinked product.

IT 55636-31-2P 55636-32-3P

RL: PREP (Preparation)
(prepn. of)

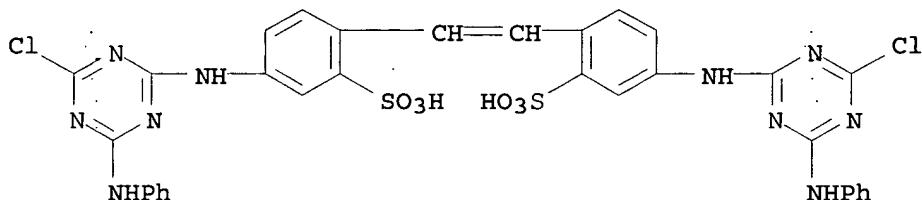
RN 55636-31-2 HCPLUS

CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyyl)bis[5-[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt, polymer with carbonic dichloride and 4,4'-(1-methylethyldene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 37138-23-1

CMF C32 H24 Cl2 N10 O6 S2 . 2 Na

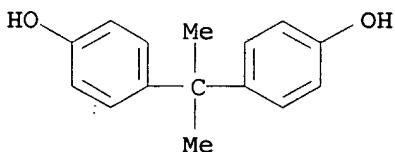


●2 Na

CM 2

CRN 80-05-7

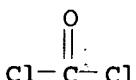
CMF C15 H16 O2



CM 3

CRN 75-44-5

CMF C Cl2 O



RN 55636-32-3 HCPLUS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/17/2006

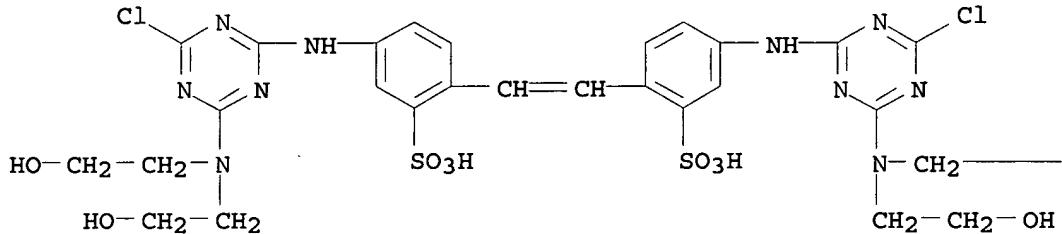
CN Benzenesulfonic acid, 2,2'-(1,2-ethenediyil)bis[5-[[4-[bis(2-hydroxyethyl)amino]-6-chloro-1,3,5-triazin-2-yl]amino]-, disodium salt, polymer with carbonic dichloride and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 4028-32-4

CMF C28 H32 Cl2 N10 O10 S2 . 2 Na

PAGE 1-A

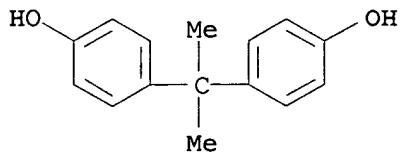


●2 Na

PAGE 1-B

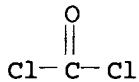
— CH₂ — OH

CM 2

CRN 80-05-7
CMF C15 H16 O2

CM 3

CRN 75-44-5
CMF C Cl₂ O



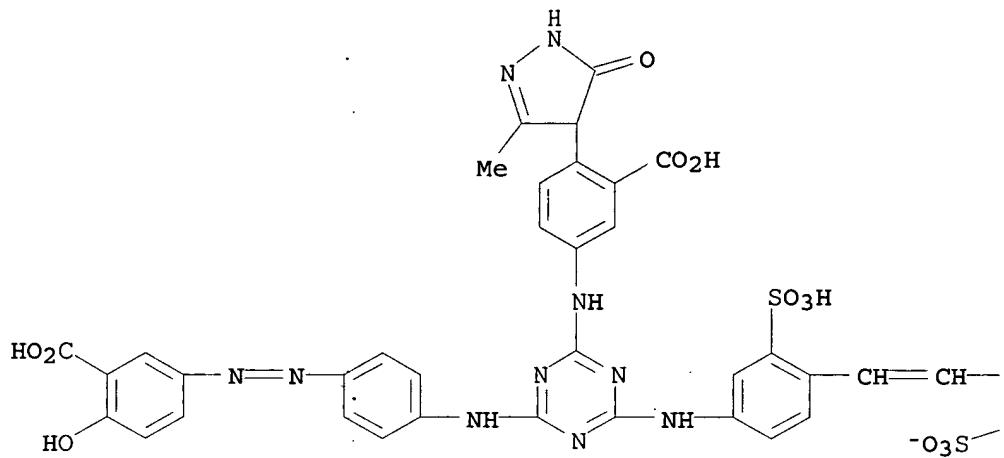
IC C08G; C07C
 CC 35-3 (Synthetic High Polymers)
 Section cross-reference(s): 28
 IT 34350-23-7P 51757-37-0P 55635-96-6P 55635-97-7P 55635-98-8P
 55636-30-1P 55636-31-2P 55636-32-3P
 55636-33-4P 55636-36-7P 55636-37-8P 55636-38-9P 55636-39-0P
 55636-42-5P 55636-43-6P 55636-44-7P 55636-45-8P 55653-42-4P
 RL: PREP (Preparation)
 (prep. of)

L61 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

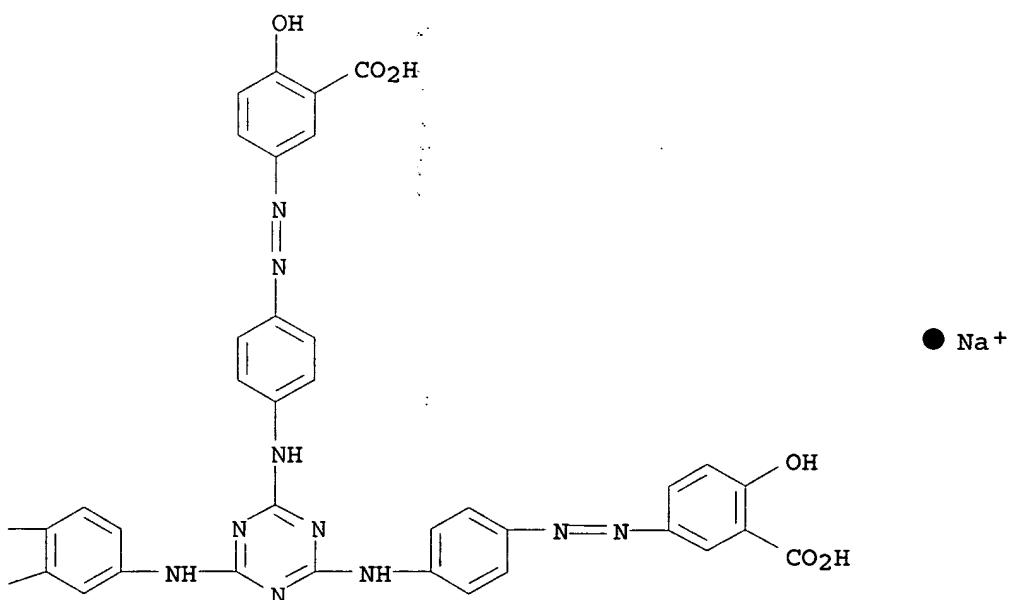
ACCESSION NUMBER: 1949:28337 HCAPLUS
 DOCUMENT NUMBER: 43:28337
 ORIGINAL REFERENCE NO.: 43:5195i,5196a
 TITLE: Polyazo dye
 PATENT ASSIGNEE(S): Soc. pour l'ind. chim. a Bale
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 236529	-----	19450702	CH	-----
AB	Addn. to III of a warm soln. of the Na salts of 5-(4-aminophenylazo)salicylic acid 87.1 and of 5-amino-2-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)benzoic acid 26.1 in H ₂ O 1800 parts, etc., gives IV [R ₂ = R ₃ = R ₄ = 4-(4-hydroxy-3-carboxyphenylazo)anilino; R ₁ = 4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-3-carboxyanilino], a red-brown powder, sol. in H ₂ O, dil. NaOH, and concd. H ₂ SO ₄ , dyes vegetable fibers and regenerated cellulose in yellow tones, improved by Cu salts.			
IT	858239-25-5, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]-, disodium salt (prep. of)			
RN	858239-25-5 HCAPLUS			
CN	2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]-, disodium salt (5CI) (CA INDEX NAME)			

PAGE 1-A



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PAGE 2-A

 $\bullet \text{Na}$

CC 25 (Dyes and Textiles Chemistry)
 IT 858239-25-5, 2,2'-Stilbenedisulfonic acid,
 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino]-, disodium salt
 (prep. of)

L61 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1949:28336 HCAPLUS
 DOCUMENT NUMBER: 43:28336
 ORIGINAL REFERENCE NO.: 43:5195g-i
 TITLE: Polyazo dye
 PATENT ASSIGNEE(S): Soc. pour l'ind. chim. a Bale
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CH 236528		19450702	CH	
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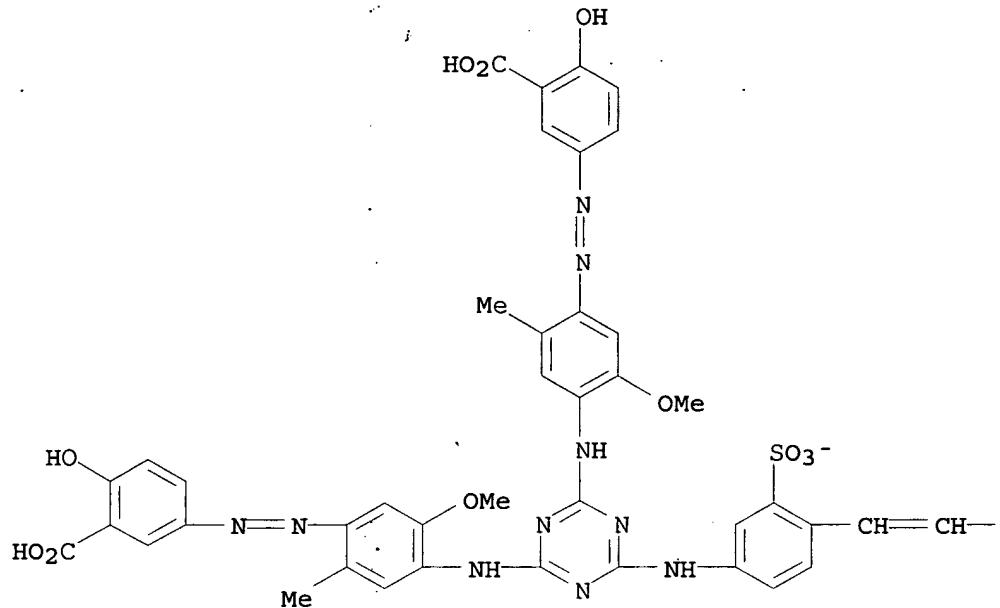
AB Cyanuric chloride (I) 36.8 and H₂O 400 at 0° are treated with di-Na 4,4'-diamino-2,2'-stilbenedisulfonate (II) 37 in H₂O 600 parts; the pale yellow, gelatinous condensation product pptd. is composed of 2 equivs. I and 1 of II. It is stirred about an hour at 0-5° with dropwise addn. of Na₂CO₃ 15 in H₂O 150 parts. To this suspension (III) is added a warm soln. of the Na salt 120.4 of 5-(2-methyl-4-amino-5-methoxyphenylazo) salicylic acid in H₂O 1500 parts, the mixt. heated at 40-5° 2 hrs., the free acid neutralized with NaHCO₃, and the temp. kept 2 hrs. at 95° with further addn. of NaHCO₃ 22 parts. Addn. of 50 parts NaCl and cooling to 50° ppts. the polyazo dye (IV) [R₁ = R₂ = R₃ = R₄ = 4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-2-methoxyanilino], a brown powder, yellow-brown in dil. NaOH, deep brown in concd. H₂SO₄, and dyes vegetable fibers and regenerated cellulose yellow tones, improved in fastness by addn. of Cu salts.

IT 860423-43-4, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-o-anisidino]-s-triazin-2-ylamino]-, disodium salt
 (prep. of)

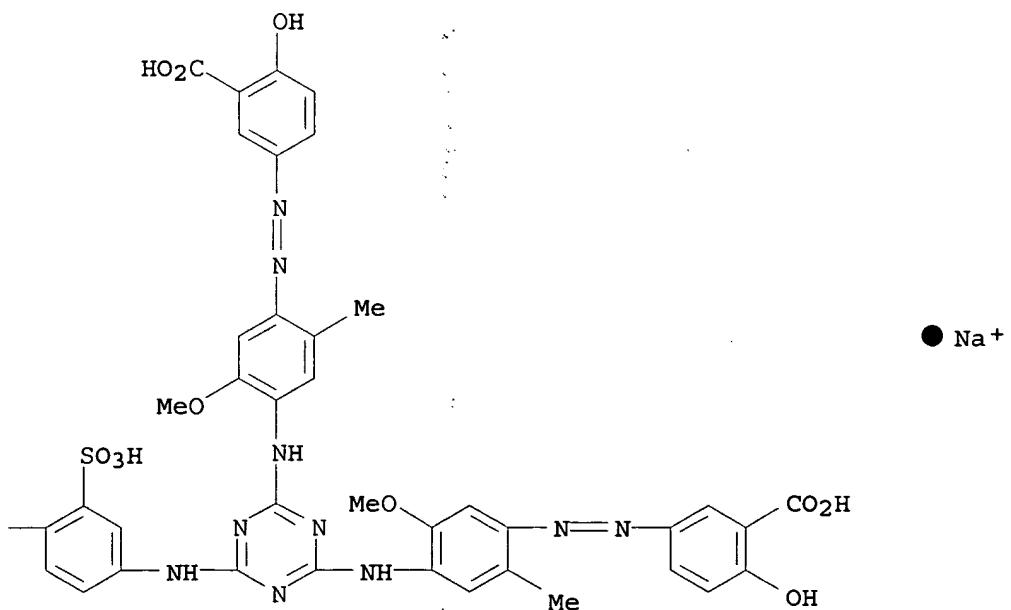
RN 860423-43-4 HCAPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-o-anisidino]-s-triazin-2-ylamino]-, disodium salt (5CI) (CA INDEX NAME)

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● Na

INCL 37A

CC 25 (Dyes and Textiles Chemistry)
 IT 860423-43-4, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-5-methyl-o-anisidino]-s-triazin-2-ylamino]-, disodium salt
 (prep. of)

L61 ANSWER 5 OF 5 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1948:20266 HCPLUS
 DOCUMENT NUMBER: 42:20266
 ORIGINAL REFERENCE NO.: 42:4354d-i,4355a-i,4356a-i,4357a-h
 TITLE: Azo dyes
 PATENT ASSIGNEE(S): Soc. pour l'ind. chim. a Bale
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 595181		19471128	GB 1943-15996	194309 29

GI For diagram(s), see printed CA Issue.

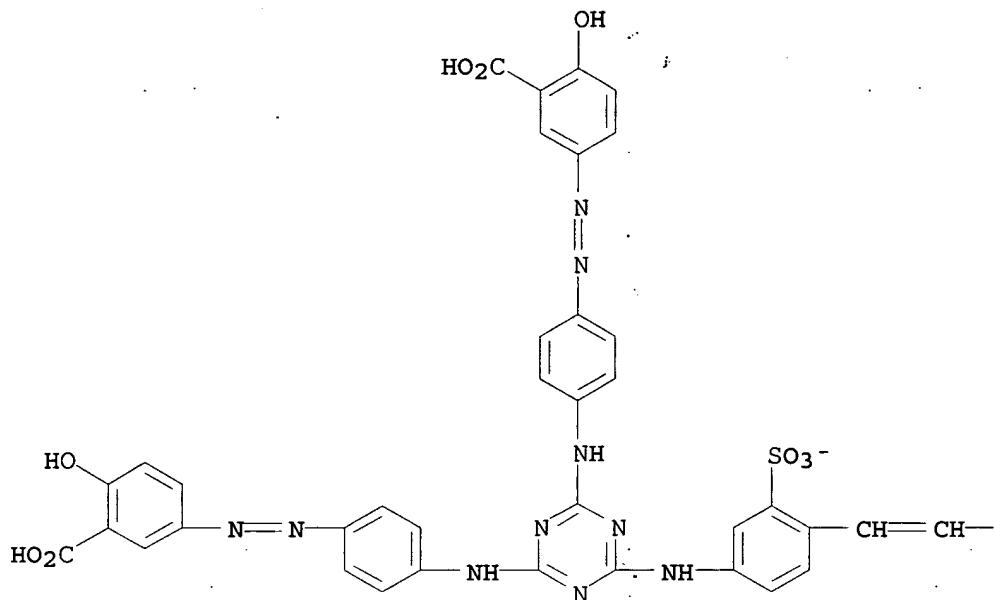
AB New yellow to orange and brown dyes, for cellulose or regenerated cellulose, improved by aftertreatment with metals, have the general formula in which 3 of the X's represent residues of aminoazo dyes of the formula NH₂YRN:NR', in which R and R' represent aromatic nuclei of the benzene series with the -NH₂Y and N:N groups para to each other, R' contg. an OH group ortho to the CO₂H group and Y represents a direct linkage between NH₂ and R or an atomic grouping in which one Z represents the linkage between this group and NH₂ and the other a H atom in which the -NH-group is attached to R, and the other X represents the residue of an aminoazo dye. Cyanuric chloride 2 and diNa 4,4'-diamino-2,2'-stilbenedisulfonate 1 mol. give an insol. pale yellow gelatinous product which is treated with Na₂CO₃ soln. and then with a 1:15 soln. of Na 4'-amino-4-hydroxy-3-azobenzencarboxylate and the product neutralized with Na₂CO₃, yielding I, a brownish yellow powder which dyes vegetable fibers and regenerated cellulose fibers yellow tints rendered very fast to washing by aftertreatment with copper. Other dyes of this series analogously prep'd. are II-VIII:II dyes cotton a pure greenish yellow, made redder and stronger by coppering; III dyes cotton a pure yellow, made slightly redder and stronger by coppering; IV dyes cotton a greenish yellow, made redder and stronger by coppering; V or Va dyes cotton a green-yellow, made somewhat redder by coppering; VI dyes cotton yellow orange, made red-yellow by coppering; VII dyes cotton a violet, made red-brown by coppering, and VIII dyes cotton a greenish yellow, made somewhat redder and stronger by coppering.

IT 860423-47-8, 2,2'-Stilbenedisulfonic acid,
 4,4'-bis[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-, disodium salt
 (prep. of)

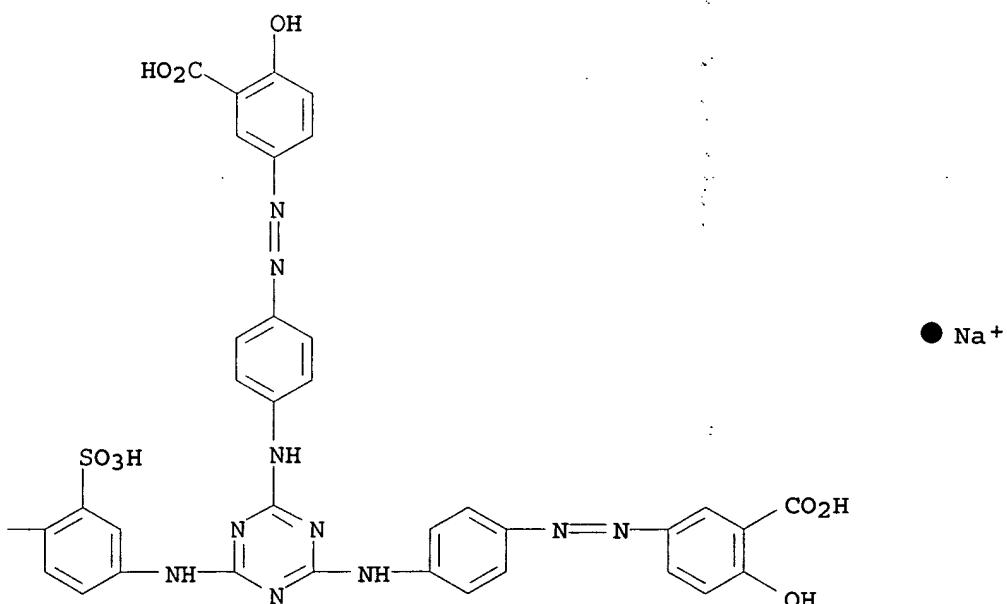
RN 860423-47-8 HCPLUS

CN 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-, disodium salt (5CI)
 (CA INDEX NAME)

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● Na

CC 25 (Dyes and Textiles Chemistry)

MEI HUANG EIC1700 REM4B28 571-272-3952

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IT 858239-19-7, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino] - 858239-28-8, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[3-carboxy-4-(3-methyl-5-oxo-2-pyrazolin-4-ylazo)-anilino]-s-triazin-2-ylamino] - 858239-32-4, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[p-[4-[(3-carboxy-4-hydroxy-5-sulfophenylazo)-6-methoxy-m-tolyl]carbamoyl]anilino]-s-triazin-2-ylamino] - 858239-34-6, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4-[3-carboxy-4-(3-carboxy-2-hydroxy-1-naphthylazo)anilino]-6-[p-(3-carboxy-4-hydroxyphenylazo)-anilino]-s-triazin-2-ylamino] - 858239-37-9, 2,2'-Stilbenedisulfonic acid, 4-[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino]-4'-[4,6-bis[p-[4-[(3-carboxy-4-hydroxy-5-sulfophenylazo)-6-methoxy-m-tolyl]carbamoyl]anilino]-s-triazin-2-ylamino] - 860423-35-4, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[p-(5-carboxy-4-hydroxy-m-tolylazo)anilino]-s-triazin-2-ylamino] - 860423-39-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[4-(3-carboxy-4-hydroxyphenylazo)-6-methyl-m-anisidino]-s-triazin-2-ylamino] - 860423-47-8, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4,6-bis[p-(3-carboxy-4-hydroxyphenylazo)anilino]-s-triazin-2-ylamino] -, disodium salt 874503-91-0, 2,2'-Stilbenedisulfonic acid, 4,4'-bis[4-[p-(3-carboxy-4-hydroxyphenylazo)anilino]-6-[p-[4-[(3-carboxy-4-hydroxy-5-sulfophenylazo)-6-methoxy-m-tolyl]carbamoyl]anilino]-s-triazin-2-ylamino] - (prep. of)

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